CHAPTER 2

DESCRIPTION OF ALTERNATIVES

A doorway in the historic Empire Ranch Headquarters frames a view of the natural vegetation.

CHAPTER 2
DESCRIPTION OF ALTERNATIVES

INTRODUCTION

Chapter 2 describes four alternative integrated management plans for public lands within the Empire-Cienega Planning Area and summarizes the expected impacts to the environment resulting from implementing each of the alternatives.

The first section of Chapter 2 summarizes management guidance common to all alternatives. Regardless of the alternative it selects as the approved plan, BLM would follow this management guidance, which consists of laws, regulations, and policies.

The ~~next~~ **second** section of Chapter 2 describes the desired future conditions for the Empire-Cienega Planning Area. These conditions are the foundation for the integrated management plan. Each action alternative consists of proposed management strategies for achieving and maintaining the desired future conditions while providing for differing but compatible levels of human use.

Chapter 2 then discusses each alternative management plan in detail. This section is divided into two parts. ~~Part A describes proposals at the resource management plan (RMP) level (generally broader resource allocations) for each alternative. Part B describes proposals at the activity plan level (on-the-ground management actions) that would be implemented for each alternative.~~ **Part A describes the desired resource conditions, land use allocations, special designations, and land tenure decisions which are part of each land use plan alternative. Part B describes the resource management actions which would be implemented under each alternative.** Each part begins with a description of the No Action Alternative of continuing current management followed by descriptions of three alternative proposals (Action Alternatives). Together, the two parts of each alternative constitute a complete plan to guide management of the public land resources and uses.

Each of these alternative plans would implement an adaptive management strategy. As BLM obtains new information, it would evaluate monitoring data and other resource information to periodically refine and update desired conditions and management strategies. For this reason, the four alternative management plans each represent a set of strategies that BLM could employ at a particular time and that were selected from the full spectrum of possible strategies under an adaptive management scenario.

~~The next section of Chapter 2 describes~~ **Following the description of the alternatives, Chapter 2 discusses plan implementation and then** the monitoring program and plan evaluation process which would be used to support the adaptive management strategy.

Afterwards, Chapter 2 ~~then~~ describes inventories or studies needed or desirable before implementing some of the management actions.

~~The last section of Chapter 2~~ **Finally, Chapter 2 concludes with Table 2-32 which** summarizes the potential environmental impacts of each alternative as a reference for comparing impacts.

MANAGEMENT GUIDANCE COMMON TO ALL ALTERNATIVES

SUMMARY OF MANAGEMENT GUIDANCE

Regardless of the alternative chosen, BLM's management of public lands and resources is governed by many laws, regulations, and policies. Although not all of these can be summarized in this document, Table 2-1 summarizes the major laws, regulations, and policies that apply to the resources and proposals being analyzed in this plan amendment/EIS. (Appendix 2 describes in more detail the major resource programs and management guidance).

ENVIRONMENTAL MANAGEMENT

In compliance with the National Environmental Policy Act (NEPA) and Council on Environmental Quality (CEQ) regulations, BLM will prepare site-specific environmental reviews before implementing actions proposed in this RMP amendment/EIS. The environmental reviews will include "means to mitigate adverse environmental impacts" of the proposed action according to 40 CFR 1502.16(h). The environmental reviews provide site-specific assessments of the impacts of implementing these actions. As suitable, these reviews are documented in the following:

- Determination of NEPA adequacy.
- Categorical exclusion reviews.
- Environmental assessments and decision records or EIS' and records of decision.

In addition, BLM will ensure that the environmental review process includes evaluation of all critical elements, including cultural resources and threatened and endangered species, and completes required State Historic Preservation Office (SHPO) and U.S. Fish and Wildlife Service Section 7 consultations. The review also determines the mitigation needed to reduce or eliminate the adverse impacts of implementing a proposed action. All environmental documents are open to public review at the Tucson Field Office.

LAS CIENEGAS NATIONAL CONSERVATION AREA ACT

Las Cienegas NCA and Sonoita Valley Acquisition Planning District were designated by Congress and signed into law by the President on December 6, 2000. Appendix 1 includes the text of Public Law 106-538.

Las Cienegas NCA was designated " to conserve, protect, and enhance for the benefit and enjoyment of present and future generations the unique and nationally important aquatic, wildlife, vegetative, archaeological, paleontological, scientific, cave, cultural, historical, recreational, educational, scenic, rangeland, and riparian resources and values of the public lands described in subsection (b) while allowing livestock grazing and recreation to continue in appropriate areas."

The Act requires BLM to prepare a management plan for the NCA within two years of the area's designation. The law acknowledges the effort that went into the preparation of this plan and the collaborative planning process by requiring that BLM prepare the NCA's management plan from a draft of the Empire-Cienega Management Plan and according to the goals and objectives developed by the Sonoita Valley Planning Partnership (SVPP).

Table 2-1
Laws and Regulations Relating to the Las Cienegas Resource Management Plan

Law/Regulation	Applies To
American Indian Religious Freedom Act (AIRFA) 42 USC @ @1996	Native American religious places and access
Archeological Resources Protection Act (ARPA) 16 USC @ @470	Archaeological resources
Clean Air Act (CAA) of 1970, as amended 1990 42 USC @ @7401 et seq.	Air quality
Clean Water Act (CWA), as amended 33 USC @1252 et seq.	Surface water quality
Endangered Species Act (ESA) 16 USC @ @1531 et seq., as amended	Threatened and endangered species
Federal Land Exchange Facilitation Act of 1988 (FLEFA), 43 USC @1716, @1740	Federal land exchanges
Federal Land Policy and Management Act (FLPMA), 43 USV @1701	Federal lands, special management areas
Federal Noxious Weed Act of 1974, as amended	Noxious weeds
Federal Pollution Control Act, as amended 1972	Watersheds
Land and Water Conservation Fund Act of 1965	Outdoor recreation
Mining and Mineral Policy Act of 1970	Mining
Mining Law of 1872, as amended	Mining claims
National Environmental Policy Act (NEPA) 42 USC @ @4321 et seq., as amended	Federal undertakings
National Historic Preservation Act (NHPA)	Archaeological and historic properties
National Materials and Minerals Policy Research Development Act of 1980	Mineral resources
Public Rangelands Improvements Act of 1978	Rangeland and wildlife management
Resource Conservation and Recovery Act of 1986, as amended (RCRA)	Hazardous or solid waste
Sikes Act	Fish and wildlife management
Soil Conservation and Domestic Allotment Act of 1935	Watersheds
Taylor Grazing Act of 1934	Livestock grazing
Water Quality Act of 1987	Riparian areas, wetlands
Watershed Protection and Flood Control Act of 1954	Watersheds
Wild and Scenic Rivers Act (WSRA) 16 USC @1271 et seq.	Wild and scenic rivers
Secretary of the Interior Order 3175	Indian trust assets
Executive Order 11593	Preservation of the cultural environment
Executive Order 11988	Floodplain management
Executive Order 11990	Wetlands, riparian zones

Table 2-1, continued
Laws and Regulations Relating to the Las Cienegas Resource Management Plan

Law/Regulation	Applies to
Executive Order 12898	Environmental justice
Executive Order 13007	Sacred sites
Executive Order 13112	Invasive species

This proposed Las Cienegas Resource Management Plan has incorporated the draft Empire-Cienega plan. The goals and objectives developed by SVPP are the foundation for this plan and are described in detail in the Desired Future Conditions section below. Achieving the goals and objectives supports the conservation, protection and enhancement of the NCA's resources and the uses they support. The goals and objectives are also intended to meet or exceed the standards required in the BLM's Standards and Guidelines for Rangeland Health in Arizona.

Because of the timing of the NCA designation which came when the draft plan was being prepared for publication, some proposed actions in some alternatives in the Draft Las Cienegas RMP/DEIS may be in conflict with the provisions of the Las Cienegas NCA Act. In preparing the proposed RMP/FEIS, we have noted in highlighted text where these conflicts occurred.

DESIRED FUTURE CONDITIONS

The Sonoita Valley Planning Partnership developed a vision, goals, and resource objectives for the Sonoita Valley area (roughly the Upper Cienega Creek basin and small portions of the Upper Babocomari and Sonoita Creek basins) to be incorporated into planning efforts for the valley. As a participant in the planning partnership, BLM's Tucson Field Office has incorporated the vision, goals, and objectives as the foundation for the Las Cienegas Resource Management Plan. The Tucson Field Office has also designed each action alternative to achieve or maintain these future conditions by meeting resource objectives.

PLANNING AREA VISION AND GOALS

Vision Statement of the Sonoita Valley Planning Partnership

The Sonoita Valley Planning Partnership will work together to perpetuate naturally functioning ecosystems while preserving the rural, grassland character of the Sonoita Valley for future generations.

Goals for the Sonoita Valley (Upper Cienega Creek Watershed)

1. Maintain and improve watershed health.
2. Maintain and improve native wildlife habitats and populations.
3. Maintain and restore native plant diversity and abundance.
4. Protect water quality.

5. Protect water quantity.

6. Assure sustainability and a complementary relationship of mineral resources to the protection of water quality and quantity.

7. Maintain the region's scenic beauty and open spaces.

    a. Protect the Empire-Cienega Resource Conservation Area and the integrity of public lands in the Sonoita Valley.

    b. Maintain the character of the Empire-Cienega Resource Conservation Area by limiting the building of any new roads or structures; maintaining the existing road system in its primitive character and condition; using existing road conditions to help control speed while providing sufficient recreational opportunities.

    c. Alter or upgrade existing roads where needed to protect natural resources on public lands in the Sonoita Valley.

    d. Encourage interaction and cooperation with other agencies and land owners, including acquiring land to protect and enhance the region's scenic beauty.

8. Sustain compatible traditional, current, and future use of the land.

    a. Ensure a range of outdoor recreation opportunities that will protect natural resources on all public lands in the Sonoita Valley.

    b. Develop and implement an education program to disseminate user guidelines that encourage responsible use of the public lands in the Sonoita Valley.

    c. Establish a Sonoita Valley trail system to promote dispersed recreation and minimize user conflicts.

    d. Plan, develop, and provide long-term stewardship of the Arizona Trail with community involvement. Priority should be given to developing alternative routes through the Empire-Cienega Planning Area from Oak Tree Canyon to Interstate Highway 10. Establish a primitive, non-motorized route for a diversity of users and provide outstanding opportunities for trail-based recreation.

9. Promote stewardship of the resources to accommodate current and future opportunities and demands.

    a. Encourage working partnerships between BLM and other agencies, users, groups, and interests.

    b. Develop maps, signs, and educational literature to promote user stewardship on public lands within the Sonoita Valley.

10. Manage the cultural resources in the planning area in a manner that provides for their preservation and protection and also avails selected properties for scientific, public, and sociocultural uses.

RESOURCE OBJECTIVES FOR THE SONOITA VALLEY (UPPER CIENEGA CREEK WATERSHED)

Desired Upland Vegetation Condition

The upland vegetation structure of the Sonoita Valley is a dynamic mixed shrub savanna where the dominance of desirable native perennial

grasses is emphasized. Native trees, shrubs, and succulents are also a part of the natural community. The relative abundance of each species results from the interaction of soils, climate, disturbance regimes, and competition among plant species.

When vigorous, this vegetation provides a ground cover of living plants and organic matter. This ground cover encourages precipitation to infiltrate the soil and reduces evaporation of moisture from the soil surface. The vegetation stabilizes soils and limits erosion to natural levels. The mosaic of diverse plant communities favors the production of high-quality water, wildlife, livestock, fish habitats, recreation opportunities, and a refuge from urban settings.

Watershed and Upland Vegetation Objective

The watershed and upland vegetation objective covers the National Resources Conservation Service (NRCS) ecological sites within the Sonoita Valley (Major Land Resource Area D-41-3 Southern Arizona Semidesert Grassland, 12-16 inch precipitation zone; and D-41-1 Mexican Oak-Pine Woodland and Oak Savannah, 16-20 inch precipitation zone) (See Appendix 3).

a. *Desired Plant Communities--Maintain or achieve properly functioning upland condition and a high similarity index (> 50%, by weight) to the historic climax plant community present on the site on 80% or more of the ecological sites in the Sonoita Valley by the year 2015.*

b. *Desired Ground Cover--Maintain or achieve the following ground cover on 80% or more of the ecological sites in the Sonoita Valley by the year 2015: Within Major Land Resource Areas 41-1 and 41-3, maintain or achieve ground cover in woodland communities in excess of 60% (<40% exposed soil surface), in grassland communities in excess of 70% (<30% exposed soil surface), and in shrubland communities in excess of 40% (<60% exposed soil surface).*

Rationale: The present plant community on an ecological site can be compared to the vegetation states that can exist on the site. One can compare existing to potential vegetation through a similarity index expressed as the percentage of the desired plant community present on the site. The similarity index to historic climax provides a measurement of change that has occurred and shows how climate and management have affected a site's plant community. For each site, the Natural Resources Conservation Service (NRCS) develops and maintains the ecological site descriptions which describe historic climax plant communities. BLM will determine the present vegetation condition from ecological site inventories using the Natural Resources Conservation Service (NRCS) ecological site descriptions in its *Range and Pasture Handbook* (NRCS 1997).

Watershed Health: Watershed health largely depends on vegetation community composition and vigor which affect hydrological relationships. Soil cover consists of plants, plant litter, gravel, and rock. Infiltration and runoff, soil structure, soil moisture, and aquifer recharge are properly balanced only when cover is sufficient.

Rangeland Health: The goals, objectives, and actions presented in this plan are intended to meet or exceed the standards required in the BLM's Standards and Guidelines for Rangeland Health in Arizona. BLM developed these standards and guidelines in consultation with Arizona's Resource Advisory Council and others.

The fundamentals of rangeland health combine the precepts of physical function and biological health with elements of law relating to water quality, plant and animal populations, and communities. These fundamentals give the direction for developing resource objectives and selecting proper management actions to meet these objectives. The Arizona standards and guidelines meet the requirements and intent of 43 Code of Federal Regulations, Subpart 4180 (Rangeland Health). These standards and guidelines are intended to clearly state BLM's policy and direction for public land users and for those responsible for managing the public lands and accountable for their condition. (See Appendix 2 for additional text on the BLM's Standards and Guidelines.)

Attempting to achieve the historic climax plant community **on** ecological sites should direct management actions toward maintaining or restoring the physical function and biological health of the rangeland ecosystem. Sustaining the ecological health and function of rangelands allows the maintenance, enhancement, or creation of future social and economic options. Actions selected must be realistic and physically and economically achievable.

Upland Wildlife Habitat Sub-Objectives
Upland Wildlife Habitat Sub-Objective A: On loamy bottom ecological sites, provide habitat for breeding grasshopper and wintering Baird's sparrows in the Sonoita basin by maintaining the following:

- An average of 6-8" grass height.
- Ground cover of live grasses and grass litter >75%.
- Less than 10% shrub canopy on two-thirds of the loamy bottom (swales) range sites that are sampled each year.

Upland Wildlife Habitat Sub-Objective B: On open grasslands and in draws in the semidesert grassland and oak savannah vegetation communities (e.g., loamy bottom swales, loamy hills, and limy slopes ecological sites) provide the following habitat components for pronghorn ~~antelope~~ fawning at key monitoring sites:

- Maintaining vegetation cover 10-18 inches high during the fawning season from the beginning of April through June each year in key fawning areas.
- Maintaining the presence of five or more species of grasses and shrubs in the vegetation communities.
- Limiting trees to no more than 5% of the total cover.
- Maintaining scattered trees greater than 12 feet tall in the habitat.
- Ensuring usable water within 1 mile of key fawning areas.

Riparian Vegetation Objective

Maintain or achieve properly functioning condition (PFC) and the potential natural vegetation community (PNC) (as described below) for 80% of the riparian areas in the Sonoita Valley.

*On BLM lands within the Empire-Cienega Planning Area, the objective is to achieve and maintain PFC on 100% of the riparian areas by 200~~3~~**5** and achieve and maintain PNC (as described below) on 95% of the riparian areas by 2010.*

Riparian Potential Natural Community Descriptions:
Cienegas (valley bottom streams)--Along Upper Cienega Creek, achieve and maintain a

vegetation community in cienegas with the following conditions:

- *Ground cover and protective roots > 90% on upper and lower banks.*
- *Marsh habitat >50% of the total aquatic habitat in key cienega riparian segments.*
- *Vegetation community on lower banks dominated by rushes, sedges, deer grass, and willows (i.e., Juncus, Scirpus, Eleocharis, Carex, Muhleburgia, Salix).*
- *Upper banks and floodplain dominated by sacaton, yerba mansa, cottonwood, willow, and mesquite.*

Cienegas (valley bottom ponds)--In the historic floodplain of Cienega Creek, achieve and maintain a vegetation community in valley bottom ponds with the following conditions:

- *Ground cover > 90% on banks.*
- *Emergent vegetation covering 75% or more of the perimeter of the aquatic habitat.*
- *Vegetation community on banks dominated by rushes, sedges, deer grass, and willows (i.e., Juncus, Scirpus, Eleocharis, Carex, Muhleburgia, Salix).*
- *Adjacent vegetation dominated by sacaton, paspalum grass, and yerba mansa.*

  Note: Dominated means that < 20% in aggregate of the plant community consists of other species (e.g., seep willow, Bermuda grass, tamarisk, knot grass, upland herbaceous annuals, or cattail).

Deciduous Woody Riparian (riparian areas with perennial surface water)--Along Lower Cienega Creek (below Mattie Canyon), achieve and maintain the following:

- *A tree community dominated by Goodding willow on lower banks or in aquatic habitat.*
- *Trees on upper banks to include yew willow, Fremont cottonwood, velvet ash, and Arizona black walnut.*
- *A good mix of all age classes of riparian trees.*
- *Lower banks to be dominated by rushes, sedges, seedling riparian trees, and deer grass with bank cover exceeding 90%.*
- *Upper banks to be dominated by deer grass, sacaton grass, and riparian trees of sapling and adult age classes.*

Deciduous woody riparian (riparian areas with free subsurface water)–Maintain a tree community composed of any of the following tree species according to the existing site's potential: Goodding willow, yew willow, Arizona black walnut, Fremont cottonwood, sycamore, seep willow, alder, box elder, and velvet ash. In addition, lower banks will be dominated by rushes, sedges, seedling riparian trees, and deer grass. If tamarisk is present, it is only a minor component of the riparian tree community.

Rationale: Properly Functioning Riparian Areas. Riparian health can be defined if the site capability and potential of a given riparian area are generally known (usually by locating and describing relatively pristine reference areas). Departure from this potential shows that the system is at risk of becoming further degraded or dysfunctional.

The riparian objective for BLM-managed lands is consistent with Standard 2 of Arizona Standards and Guidelines for Rangeland Health (See Appendix 2). Standard 2 requires that riparian-wetland areas be in properly functioning condition. Proper functioning condition of riparian and wetland areas is determined using the methodology described in the BLM's Riparian Area Management Technical Reference 1737-9, *Process for Assessing Proper Functioning Condition* (BLM 1995). The assessment evaluates presence or absence of the hydrologic, vegetation, and soil erosion/deposition factors that contribute to riparian area function (See Appendix 2).

The Cienega Creek riparian system is relatively stable, unlike canyon-bound streams with limited floodplain function. The objective of achieving and maintaining potential natural community for 95% of the riparian areas takes into account disturbances from natural events such as floods or fires which may impact portions of the riparian area, returning them temporarily to an earlier successional stage. Recovery of the riparian area to the potential natural community has been observed to occur fairly rapidly.

Aquatic Habitat Objective

Provide a diversity and high quality of aquatic habitats to maintain and enhance the viability of the existing native fish community and other aquatic species within the Cienega Creek portion of the Sonoita Valley ecosystem by meeting or exceeding values for aquatic habitat parameters shown in Table 2-2 within key segments by 2010 or within 3 years after a major flood.

Rationale: Lack of pools is often a limiting factor in degraded riparian systems. Excessive sediment loads, coupled with a poor differential in scour and deposition, may prevent or inhibit pool formation and development (Rosgen 1996). The development of a diversity of habitats that creates a wide array of physical attributes is expected to provide habitat for all life stages of each of the three fish species. Some locations along the creek have small areas of floodplain and streambank sheet or gully erosion. Sedimentation is likely to be a continual problem until the stream has adjusted in areas that are recovering from past entrenchment. The major sediment source in these areas is from sloughing banks as a new floodplain is established within the steep walled gully (stream adjustment to release itself from confinement due to entrenchment).

The fish with the most specific habitat requirements is the Gila chub. Overall, aquatic habitat diversity and stability are expected to increase if riparian and aquatic parameters listed above are met. Habitat parameters were selected to promote the health of this fish. Since the Gila topminnow and longfin dace also depend on pools and will benefit from the improvement of other parameters, all three fish species are expected to maintain healthy populations.

If the above objective is met, both juveniles and adult life stages of all three species are expected to be well represented in this fish community. In addition, all three segments are expected to maintain an average density exceeding 20 chub per 100 ft^2 of deep pool (> 2 ft deep) electrofished. Evidence of three distinct age classes will be interpreted as successful life recruitment into the adult age class. Habitat requirements of the fish have been studied the most thoroughly. But if habitat parameters for fish are met, then other aquatic species are also likely to benefit including two leopard frog species, Mexican garter snake, Sonoran mud turtle, two species of kingfishers, snipe, and several duck species.

Table 2-2
Pool Habitat and Cover Requirements for Selected Segments in Cienega Creek

	Minimum Pool Features					
Segment Name	**Total Number per mile**	**Number >2' Deep**	**Areal Extent (%)**	**Minimum Instream Cover (ft²/mile)**	**Minimum Overhanging Cover (ft²/mile)**	**Minimum Monthly Flow (cfs)**
Source ➜ Springwater Canyon	70	40	35	10,000	4,000	0.2 (June)
Springwater Canyon ➜ Coldwater Spring	100	40	50	4,000	4,000	Unknown
Coldwater Spring ➜Confluence Mattie Canyon	N/A	N/A	80	4,000	4,000	Unknown
Confluence Mattie ➜ Canyon Pump Canyon	100	40	50	4,000	4,000	0.7 (June)
Pump Canyon ➜ Narrows	100	40	50	4,000	4,000	Unknown

High quality aquatic habitat in Cienega Creek

Fish and Wildlife Management Objective

Restore and maintain the native diversity, natural distribution, and abundance of fish and wildlife species in the Sonoita Valley, with sufficient resources and in a manner that perpetuates naturally functioning ecosystem processes by *the following:*

- *Allowing for a mosaic of habitats.*
- *Minimizing habitat fragmentation.*
- *Allowing for waters appropriate to ecosystem capacity.*
- *Minimizing restrictions to movement.*
- *Reestablishing, extending the range, or supplementing populations.*
- *Implementing recovery plans.*
- *Supporting research efforts.*

Rationale: Achieving the upland and riparian vegetation objectives should produce vegetation states similar to the historic climax communities by creating a mosaic of habitat types for wildlife. Table 2-3 cross-references the rangeland ecological sites in the desired states to wildlife habitats (Brown 1982).

Cultural Resources Management Objective

Manage the planning area's cultural resources to realize or protect their scientific information potential, their educational, recreational and traditional values, their usefulness as subjects for experimental studies, and their qualities requiring conservation for the future. To meet this objective, the planning area's cultural resources will be allocated among six established use categories:

. *Scientific Use*
. *Conservation Use*
. *Traditional Use*
. *Public Use*
. *Experimental Use*
. *Discharged From Management*

Rationale: Compliance with the National Historic Preservation Act established BLM policy requires management of the planning area's cultural resources in a manner providing for:

. Collection and assimilation of information about the nature of the cultural resources known and expected to occur within the field area.

. Assessment of cultural resource use potentials.

. Assignment of resource uses.

. Planned steps to protect or realize assigned uses.

. Authorization of appropriate uses.

(See Appendix 2 for a more detailed description of Cultural Resource Use Categories.)

Table 2-3
Vegetation Communities and Associated Wildlife Species, Empire-Cienega Planning Area

MLRA	Ecological Site	Brown & Lowe Vegetation Community[1]	Visual Aspect of the Historic Climax Plant Community	Associated Wildlife Species
41-3 Southern Arizona Semidesert Grassland	Sandy Loam Upland; Loamy Upland; Swales; Limy Slopes; Volcanic Hills; Volcanic Hills/Limy Slopes; Loamy Upland-Swales; Sandy Loam Upland/Loamy Upland; Loamy Upland/Limy Slopes	143.1 Semidesert Grassland	Open Grassland	Baird's sparrow, grasshopper sparrow, scaled quail, aplomado falcon, pronghorn
	Loamy Hills; Loamy Hills/Limy Slopes; Volcanic Hills/Shallow Upland/Clay Hills	143.1	Grassland- Shrub Dotted	Baird's sparrow, grasshopper sparrow, scaled quail, aplomado falcon, lesser long-nosed bat, javelina, pronghorn
	Limestone Hills; Basalt	143.1	Shrub-Grassland	Mule deer, javelina
	Limestone Hills/Limy Upland	143.1	Shrubland	Gambel's quail, javelina, jaguar
		123.31 Madrean Woodland	Oak Woodland	Turkey, Mearn's quail, jaguar, white-tail deer, mule deer
		Altered	Mesquite invaded Grass	Mule deer, javelina, Swainsons hawk
Riparian Plant Communities	Loamy Bottom (Woodland)	223.231 Mesquite Bosque	Mesquite Woodland	Gray hawk (in assoc. with cottonwood willow), white-tail deer, javelina
	Sandy-Bottom	243.32 Xero-riparian	Savannah	Gambel's quail, Mearn's quail, mule deer, javelina, jaguar
	Loamy Bottom Subirrigated	143.141 Sacaton Grassland	Open Grassland	Botteri's sparrow, Mearn's quail, black-tailed prairie dog, white-tail deer, javelina

Table 2-3, continued
Vegetation Communities and Associated Wildlife Species, Empire-Cienega Planning Area

MLRA	Ecological Site	Brown & Lowe Vegetation Community[1]	Visual Aspect of the Historic Climax Plant Community	Associated Wildlife Species
Riparian Plant Communities (continued)	Sandy Bottom-Subirrigated	223.211 Southwest Riparian Deciduous Forest	Cottonwood-Willow Forest	Fish, lowland and Chiricahua leopard frogs, Mexican garter snake, yellow-billed cuckoo, southwest willow flycatcher, gray hawk, beaver, white-tail deer
	No associated ecological site	243.321 Southwest Interior Marshland	Cienega	Fish, lowland and Chiricahua leopard frogs, Mexican garter snake
	Loamy Bottom		Cut Mesquite Bosque	
	Loamy Bottom-Subirrigated		Agricultural Field	

[1] Brown (1982).

Cultural Resources Sub-Objective

Cultural Resource Sub-Objective A: Empire Ranch Headquarters

Preserve and adaptively reuse the Empire Ranch Headquarters for public benefit without diminishing the historically significant buildings and setting by doing the following:

- *Evaluating and nominating structures and buildings for eligibility to the National Register of Historic Places.*
- *Stabilizing and maintaining historic structures in accordance with the Secretary of the Interior's Standards and Guidelines for Rehabilitating Historic Buildings on the National Register.*
- *Designing and implementing adaptive uses of the Headquarters for an array of compatible educational, research, interpretive and administrative programs.*
- *Continuing the traditional use of the Headquarters to support management of the surrounding lands.*
- *Maintaining the Headquarters development and usage at levels compatible with maintaining desired resource conditions for the surrounding lands.*

Recreation Objective

Ensure a range of outdoor recreation opportunities to help meet existing and expected needs while protecting natural resources on all public lands in the Empire-Cienega Planning Area by doing the following:

- *Establishing recreation opportunity zones and management standards that will enhance the spectrum of activities and settings.*

- *Developing and implementing a visitor education program to encourage responsible use of public lands in the Empire-Cienega Planning Area.*

- *Establishing an Empire-Cienega trail system as part of the Sonoita Valley trail system to allow motorized and non-motorized dispersed recreation.*

- *Maintaining and securing legal access to the Empire-Cienega portion of the Sonoita Valley trail system.*

DESCRIPTION OF ALTERNATIVES

~~The alternatives section in this plan is divided into two parts. to differentiate the two levels of BLM planning and decision making which are occurring. The main purposes for this division are: (1) to clearly distinguish decisions (i.e., land use plan proposals) that would likely require land use plan amendments to change them, and (2) to clearly distinguish the land use plan proposals from the activity plan actions because each is subject to different public review and protest/appeal procedures. The Bureau's planning process includes an opportunity for administrative review of Land Use Plans via a plan protest to the BLM State Director following the issuance of the Final Plan. Plan decisions may be appealed following the issuance of the Record of Decision for the Final Plan/EIS. Activity plan actions may also be appealed following the issuance of the decision document.~~

The alternatives section in this plan is divided into two parts. The first part of the alternatives section includes the four land use plan alternatives for which BLM has proposed decisions ~~at the Resource Management Plan level~~, including desired **resource** conditions, land use allocations, ~~and~~ special designations, **and land tenure**. Within each alternative, we have arranged the proposed actions by resource topic. Table 2-4 **compares the proposals for each land use plan alternative**. ~~summarizes the changes among the alternatives for the RMP-level proposals.~~

~~The second part includes the proposed implementation for each alternative and consists of four integrated activity plans, one for each land use plan alternative. Table 2-5 summarizes the changes across alternatives for the activity plan proposals. The integrated activity plans incorporate~~ **The second part describes the resource management actions which would be implemented under each alternative. Table 2-5 compares the management actions across alternatives**. The management actions **include many** that would have traditionally been found in allotment management plans (AMPs), habitat management plans (HMPs), cultural resource management plans, recreation plans, and area of critical environmental concern (ACEC) management plans.

INTERMIXED LANDS

The presence of intermixed land ownership patterns within the planning area complicates the development and implementation of alternative management strategies. The proposals under each of the alternatives in this plan ~~are intended to~~ apply only to BLM-managed public lands.The exceptions are vegetation treatments and livestock grazing management actions which are also proposed on State Trust Lands on the Empire-Cienega and Empirita allotments since BLM holds the state grazing leases on these allotments.

Table 2-4
Comparison of Land Use Plan Alternatives in the Las Cienegas Resource Management Plan

DESIRED RESOURCE CONDITIONS				
Planning Issue	**Alternative 1 (Current Management)**	**Alternative 2 (Proposed)**	**Alternative 3**	**Alternative 4**
Watershed: Upland, Riparian and Aquatic Management	Manage public lands to achieve and maintain Arizona Standards for Rangeland Health.	In addition, manage public lands to achieve and maintain the goals and desired resource objectives for upland vegetation, riparian vegetation, and aquatic habitats developed through the Sonoita Valley Planning Partnership.	Same as Alternative 2.	Same as Alternative 2.
Fish and Wildlife Management	Four T&E species and two candidate species selected for priority management.	Manage public lands to achieve and maintain the goals and desired resource objectives for fish and wildlife developed through the Sonoita Valley Planning Partnership Emphasis on ecosystem approach to management of four rare habitats (e.g., grassland, riparian/wetland, mesquite bosque, oak woodland) which support four T&E species, two candidate species, and 11 priority species.	Same as Alternative 2.	Same as Alternative 2.
Visual Resource Management	BLM would designate 49,000 acres as VRM Class III.	BLM would designate 49,000 acres as VRM Class II.	Same as Alternative 2.	Same as Alternative 2.

Table 2-4, continued
Comparison of Land Use Plan Alternatives in the Las Cienegas Resource Management Plan

DESIRED RESOURCE CONDITIONS, continued				
Planning Issue	**Alternative 1 (Current Management)**	**Alternative 2 (Proposed)**	**Alternative 3**	**Alternative 4**
Cultural Resource Management	Manage the historically significant buildings at the Empire Ranch Headquarters for Public Use.	Manage public lands to achieve and maintain the goals and desired resource objective for cultural resources developed through the Sonoita Valley Planning Partnership	Same as Alternative 2.	Same as Alternative 2.
	Manage selected cultural properties outside the ranch headquarters area for scientific and conservation use. As data are collected, some properties and sites could be allocated to public or experimental use, or discharged from management.	Manage selected cultural properties outside the ranch headquarters area for scientific, conservation, and public use. As data are collected some properties and sites could be allocated to public or experimental use or discharged from management.		
	Work with Native Americans to select harvesting areas for the noncommercial collection of indigenous plants.	Work with Native Americans to select harvesting areas for the noncommercial collection of indigenous plants.		
Recreation Management	No desired recreation opportunity classes established.	Three desired recreation opportunity classes established.	Same as Alternative 2.	Same as Alternative 2.

Table 2-4, continued
Comparison of Land Use Plan Alternatives in the Las Cienegas Resource Management Plan

LAND USE ALLOCATIONS				
Planning Issue	**Alternative 1 (Current Management)**	**Alternative 2 (Proposed)**	**Alternative 3**	**Alternative 4**
Fish and Wildlife Habitat Management	Manage suitable public land habitats for the recovery or reestablishment of native populations. Reintroduce endangered Gila Topminnow in accord with AGFD-BLM MOU.	Same as Alternative 1 except that reintroductions, ~~range extensions,~~ **reestablishments**, or supplementing federally listed, candidate or other priority species would be pursued in suitable habitats.	Same as Alternative 2.	Same as Alternative 2.
Wildland Fire Management	All natural or human caused wildland fires would be suppressed **in the wildland-urban interface areas, a multi-agency management strategy that incorporates ecological and administrative issues will be developed for areas outside the wildland-urban interface areas.** Unplanned ignitions would not be managed for resource benefit.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
Mining	48,542 acres of public lands remain closed to mineral location and mineral leasing. 458 acres of public lands and ~~5914.6~~ **7,167** acres of split-estate lands remain open to mineral location and mineral leasing. 49,000 acres of public lands and ~~5914.6~~ **7,167** acres of split-estate lands closed to mineral material sales (See Map 2-1).	Same as Alternative 1 except petition to withdraw 458 public domain acres and ~~5914.6~~ **7,167** split-estate acres from mineral location and leasing (See Map 2-4).	41,000 acres of public land and ~~5914.6~~ **7,167** acres of split-estate lands would be open to mineral location and mineral material sales outside of ACEC's. 45,859 acres of public lands and ~~5914.6~~ **7,167** acres of split-estate lands would be open to mineral leasing with the stipulation of no surface occupancy within ACEC's (See Map 2-11).	Same as Alternative 2 (See Map 2-4).

Table 2-4, continued
Comparison of Land Use Plan Alternatives in the Las Cienegas Resource Management Plan

LAND USE ALLOCATIONS, continued				
Planning Issue	**Alternative 1 (Current Management)**	**Alternative 2 (Proposed)**	**Alternative 3**	**Alternative 4**
Major Utility Rights-of-Way	BLM would not designate utility corridors.	BLM would designate two utility corridors across public lands in the planning area (See Map 2-5).	BLM would designate three utility corridors across public lands in the planning area (See Map 2-12).	BLM would designate one utility corridor across public lands in the planning area (See Map 2-17).
Off-Highway Vehicle (OHV) Designation	OHV use on 49,000 acres of public land would be limited to designated roads.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
Public Land Road Designations	~~116.4~~ 113.2 miles--open-motorized travel 0.4 miles--new construction 0 miles--seasonal use ~~20.3~~ 21.1 miles--administrative use 0 miles--non-motorized use ~~2.2~~ 1.2 miles--closed and reclaimed (See Map 2-2).	~~93.9~~ 91.9 miles--open-motorized travel 0.4 miles--new construction ~~1.0~~ 0.7 miles--open-seasonal use ~~27.0~~ 28.7 miles--administrative use 6.6 miles--non-motorized use ~~16.0~~ 13.7 miles--closed and reclaimed (See Map 2-6).	~~94.2~~ 89.0 miles--open-motorized travel 0.4 miles--new construction ~~5.9~~ 4.4 miles--open-seasonal use ~~25.4~~ 30.5 miles--administrative use ~~7.6~~ 6.8 miles--non-motorized use ~~11.4~~ 9.8 miles--closed and reclaimed (See Map 2-13).	~~86.8~~ 83.9 miles--open-motorized travel 0.4 miles--new construction ~~1.1~~ 0.9 miles--open-seasonal use ~~28.5~~ 30.2 miles--administrative use 0 miles--non-motorized use ~~27.6~~ 25.5 miles--closed and reclaimed (See Map 2-18).
Recreation Management	BLM would not designate recreation zones.	BLM would designate 1,109 acres as Recreation Zone 1; 3,504 acres as Recreation Zone 2; and the 44,387 remaining acres as Recreation Zone 3 (See Map 2-7).	BLM would designate 1,109 acres as Recreation Zone 1; 16,851 acres as Recreation Zone 2; and the 31,040 remaining acres as Recreation Zone 3 (See Map 2-14).	BLM would designate 1,109 acres as Recreation Zone 1; 2,161 acres as Recreation Zone 2; and the 45,730 remaining acres as Recreation Zone 3 (See Map 2-19).

Table 2-4, continued
Comparison of Land Use Plan Alternatives in the Las Cienegas Resource Management Plan

LAND USE ALLOCATIONS, continued				
Planning Issue	**Alternative 1 (Current Management)**	**Alternative 2 (Proposed)**	**Alternative 3**	**Alternative 4**
Arizona Trail	BLM would not designate a corridor for the Arizona Trail..	BLM would designate a corridor for the Arizona Trail across 11.6 miles of public lands (See Map 2-6).	BLM would designate a corridor for the Arizona Trail across 14 miles of public land (See Map 2-15).	BLM would designate a corridor for the Arizona Trail across 8 miles of public land (See Map 2-20).
Livestock Grazing Management	BLM would allocate 8448 Animal Unit Months (AUMs) of forage ~~Authorized~~ on about 41,855[1] public land acres within 4 allotments (See Map 2-3).	BLM would allocate up to 10,524[2] Animal Unit Months (AUMs) of forage ~~Authorized~~ on about 42,155[3] public land acres within 5 allotments (See Map 2-9).	BLM would allocate 5880 Animal Unit Months (AUMs) of forage ~~Authorized~~ on about ~~43,895~~ 45,375[4] public land acres within 5 allotments (See Map 2-9).	No public lands would be allocated for livestock grazing and BLM would not allocate forage for livestock grazing.
SPECIAL DESIGNATION AREAS				
Planning Issue	**Alternative 1 (Current Management)**	**Alternative 2 (Proposed)**	**Alternative 3**	**Alternative 4**
ACEC Designation	No ACECs designated.	One ACEC designated on 45,859 acres of public land (See Map 2-10).	Two ACECs designated on 45,859 acres of public land (See Map 2-16).	Same as Alternative 2 (See Map 2-10).
Wild and Scenic Rivers	Manage the Cienega Creek Wild and Scenic Rivers Study Area to protect the resources pending congressional action on designation.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.

[1] There are about 659 acres currently excluded from grazing, primarily for livestock management purposes.
[2] The actual number of AUMs of forage used annually would vary due to the flexible stocking in association with the Biological Planning Process described in the Livestock Management Actions for Alternative 2.
[3] There are about 3,900 acres proposed as livestock exclosures for both livestock management and monitoring purposes under Alternative 2. The exact number of excluded areas may vary depending on the number, size, and location of study exclosures which will be developed to help evaluate the effectiveness of grazing management.
[4] There would be about 699 acres excluded from grazing under Alternative 3.

Table 2-4, continued
Comparison of Land Use Plan Alternatives in the Las Cienegas Resource Management Plan

LAND TENURE				
Planning Issue	**Alternative 1 (Current Management)**	**Alternative 2 (Proposed)**	**Alternative 3**	**Alternative 4**
Land Tenure Adjustments	Public lands in the planning area (Empire-Cienega Long Term Management Area) to be retained and blocked up through acquisitions of lands or easements according to objectives and management prescriptions in the Safford RMP Land Tenure Plan Amendment.	Public lands in Las Cienegas NCA to be retained and additional public lands or easements to be acquired within the Sonoita Valley Acquisition Planning District according to the prescriptions in the Las Cienegas RMP/EIS Acquisition Strategy (Appendix 2). Public lands which become contiguous with the NCA due to acquisitions of intermixed lands become part of the NCA. Acquisitions within the Sonoita Valley Acquisition Planning District become part of the NCA upon acquisition. Any acquisitions of lands or easements inside the planning area (Empire-Cienega Long Term Management Area) but outside the Sonoita Valley Acquisition Planning District would be completed according to objectives and management prescriptions in the Safford RMP Land Tenure Plan Amendment.	Same as Alternative 2.	Same as Alternative 2.

Table 2-5
Comparison of Alternatives— ~~Activity Plan Level~~ Management Actions
Las Cienegas Resource Management Plan *(This first page of table was missing in Draft Plan.)*

Implementation Issue and Associated Management Actions	Alternative 1 (Current Management)	Alternative 2 (Proposed)	Alternative 3	Alternative 4
Watershed: Upland, Riparian and Aquatic Management				
Vegetation Treatments	Case by Case	On 20,000 Acres (See Map 2-23)	Same as Alternative 2	Same as Alternative 2
Site Restoration	Case by Case	Where Impacting Watershed/Riparian Function	Same as Alternative 2	Same as Alternative 2
Non-Commercial Plant Collection	Casual use	~~by permit~~ Yes, up to 20 lbs. Per Person Per Year of Seeds, Nuts and Fruits.	Same as Alternative 2	Same as Alternative 2
Establish Weed Management Area	No	Yes	Yes	Yes
Control Non-Native Plants	Case by Case	Where Impacting Natives and Feasible	Same as Alternative 2	Same as Alternative 2
Implement Wood Canyon Activity Plan	No	Yes	Yes	Yes
Continue Agricultural Fields Restoration Project	Case by Case	Yes	Yes	Yes
Motorized Vehicles and Special Recreation Permit Holders Restricted to Designated Stream Crossings	Partial	Yes	Yes	Yes
Prohibit Recreational Mining	No	Yes	Yes	Yes

Table 2-5 continued
Comparison of Alternatives— ~~Activity Plan Level~~ Management Actions
Las Cienegas Resource Management Plan

Implementation Issue and Associated Management Actions	Alternative 1 (Current Management)	Alternative 2 (Proposed)	Alternative 3	Alternative 4
Watershed: Upland, Riparian and Aquatic Management (continued)				
Prohibit Camping Within 100 Feet of Stream	No	Yes	Yes	Yes
Minimize Developments in 100 Year Floodplain	Yes, Livestock	Yes, All	Yes	Yes
Manage Uses to Ensure that Stream Bank Stability is > 90%	No	Yes	Yes	Yes
Implement Design Changes on Roads	Case-by-Case	Where Roads Degrading Watershed or Riparian Function	Same as Alternative 2	Same as Alternative 2
Restrict Livestock Grazing in Riparian Areas to Crossing Lanes and Watering Areas	Partial	Yes	Yes	Yes
Fish and Wildlife Management				
Section 7 Consultations	Yes	Yes	Yes	Yes
Implement Existing Grazing Biological Opinions' Terms and Conditions for Gila Topminnow, Southwestern Willow Flycatcher, Jaguar, Lesser Long-Nosed Bat, Huachuca Water Umbel	Yes	Yes, These are Incorporated as Proposed Fish and Wildlife and Livestock Grazing Management Actions	Same as Alternative 2	Same as Alternative 2

Table 2-5, continued.
Comparison of Alternatives— ~~Activity Plan Level~~ Management Actions
Las Cienegas Resource Management Plan

Implementation Issue and Associated Management Actions	Alternative 1 (Current Management)	Alternative 2 (Proposed)	Alternative 3	Alternative 4
Fish and Wildlife Management (continued)				
Implement Gila topminnow Recovery Plan	Partial	Yes, Instream Flow Application for Cienega Creek, Control Exotics, Establish Supplemental Populations, Minimize Creek Access and Crossings	Same as Alternative 2	Same as Alternative 2
Pursue Reintroductions, ~~range extensions~~ or Supplementation of Priority and Special Status Species into Suitable Habitats According to Established Procedures	For Gila Topminnow Only, in Accord With Existing BLM-AGFD MOU	Yes	Yes	Yes
Control Exotic Species	Case-by-Case	Where Exotics Threatening Natives and Control is Feasible	Same as Alternative 2	Same as Alternative 2
Complete Water Source Evaluation	Partial	Yes	Yes	Yes
Modify Fences	Case-by-Case	Yes (See Map 2-24)	Same as Alternative 2	Same as Alternative 2
Develop Partnership Educational Materials on Pronghorn	No	Yes	Yes	Yes
Not Authorize Dog Trials in Pronghorn Habitat from April to June	Yes	Yes (See Map 2-25)	Same as Alternative 2	Same as Alternative 2
Require Dogs to be Leashed in Pronghorn Fawning Areas from April to June	No	Yes (See Map 2-25)	Same as Alternative 2	Same as Alternative 2

Table 2-5, continued.
Comparison of Alternatives— ~~Activity Plan Level~~ Management Actions
Las Cienegas Resource Management Plan

Implementation Issue and Associated Management Actions	Alternative 1 (Current Management)	Alternative 2 (Proposed)	Alternative 3	Alternative 4
Fish and Wildlife Management (continued)				
Pursue Conservation Easements or Acquisitions of Land to Maintain Movement Areas	No	Yes	Yes	Yes
Develop Supplemental Waters	Case-by-Case	Yes, If Found Necessary from Water Sources Evaluation	Same as Alternative 2	Same as Alternative 2
Cultural Resource Management				
Site Allocation	Empire Ranch Headquarters to Public Use	Empire Ranch Headquarters to Public Use	Same as Alternative 2	Same as Alternative 1
	No Other Sites to Public Use	Mattie Canyon, Sandford Homestead, Pump Canyon to Scientific use.		
Project Plans	Master Plan for Empire Ranch Headquarters Would Provide for Minimal Public Use and Stabilization, but Not Restoration of Historic Buildings	Master Plan for Empire Ranch Headquarters Would Provide for Stabilization, Restoration, and Adaptive Reuse of Historic Buildings, Including Historic House Museum, Interpretive Discovery Trail, and Education on Empire Program	Same as Alternative 2	Same as Alternative 2
National Register Nominations	Empire Ranch Headquarters	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
Class II Surveys	On 40,000 Acres	On 40,000 Acres	On 40,000 Acres	Project-by-Project Basis

Table 2-5, continued.
Comparison of Alternatives— ~~Activity Plan Level~~ Management Actions
Las Cienegas Resource Management Plan

Implementation Issue and Associated Management Actions	Alternative 1 (Current Management)	Alternative 2 (Proposed)	Alternative 3	Alternative 4
Cultural Resource Management (continued)				
Class III Surveys	Along ~~136.7~~ 113.2 Miles of Roads	Along ~~128.5~~ 91.9 Miles of Roads and Trails	Along ~~133.1~~ 89.0 Miles of Roads and Trails	Along ~~116.4~~ 83.9 Miles of Roads
Access				
Designated Road System	Yes	Yes	Yes	Yes
Pursue Legal Access	No	Yes (EC-900, EC-901, EC-902 and EC-904) (See Map 2-26)	Same as Alternative 2	Same as Alternative 2
Road Maintenance	Infrequent	Scheduled According to Maintenance Plan	Same as Alternative 2	Same as Alternative 2
Develop Transportation System Project Plan	No	Yes	Yes	Yes
Livestock Grazing Management				
Maximum Livestock Numbers on Allotment (All Land Status)	2,064	~~variable~~ 2,120[1]	1,175	1,232
Allowable Utilization	40-60%	30-40%	30-40%	30-40%
Stocking Rate	Variable (Empire-Cienega) Set (Others)	Variable	Fixed	N/A

[1] The actual number of livestock would vary annually due to the flexible stocking in association with the Biological Planning Process described in the Livestock Grazing Management Actions for Alternative 2. Alternative 2 total livestock numbers includes an additional 15 on the Empirita public lands, 30 head in Empire Mountains public lands and 11 head on private lands in Empire Mountains compared to Alternative 1.

Table 2-5, continued
Comparison of Alternatives— ~~Activity Plan Level~~ Management Actions
Las Cienegas Resource Management Plan

Implementation Issue and Associated Management Actions	Alternative 1 (Current Management)	Alternative 2 (Proposed)	Alternative 3	Alternative 4
Livestock Grazing Management (continued)				
Pasture Rotation	Selective Rest Rotation (Empire-Cienega) Deferred Rotation (Others)	Selective Rest Rotation	Seasonal Use (Vera Earl) Deferred Rotation (Others)	N/A
Proposed Range Improvements	19 Range Improvements: 21.5 Miles Fence 7.25 Miles Pipeline 4 New Wells 3 Redeveloped Wells 2 Corrals (See Map 2-22)	Same as Alternative 1, Plus Riparian Exclosures at Narrows and Nogales Springs (See Map 2-22)	Same as Alternative 2	110 Miles Fence
Biological Planning	Empire-Cienega Allotment	All Allotments	No Allotments	N/A
Recreation Management				
Issue Special Recreation Permits	Case-by-Case	Case-by-Case **and According to Guidance for Recreation Zone**	Same as Alternative 2	Same as Alternative 2
Pursue Special Land Use Permit with Arizona State Land Department	No	Yes	Yes	Yes
Pursue Recreation Permit System.	No	Yes	Yes	Yes
Develop Interpretive Program	No	Yes	Yes	Yes
Develop Maintenance Program	No	Yes	Yes	Yes

Table 2-5, continued.
Comparison of Alternatives— ~~Activity Plan Level~~ Management Actions
Las Cienegas Resource Management Plan

Implementation Issue and Associated Management Actions	Alternative 1 (Current Management)	Alternative 2 (Proposed)	Alternative 3	Alternative 4
Recreation Management (continued)				
Designated Group Sites	0	3 (See Map 2-28)	5 (See Map 2-29)	1 (See Map 2-30)
Designated Camp Areas	0	4 (See Map 2-28)	5 (See Map 2-29)	4 (See Map 2-30)
Day Use Areas	0	2	2	1
Designated Pullouts (Minimum#)	0	11	14	10
Group Size (Requires Special Recreation Permit When Meets or Exceeds This Number[2])	50 Vehicles	30 or More People Up to Maximum Group Size Allowed in Selected Staging Area	Same as Alternative 2	Same as Alternative 2
Mechanized Vehicles	On/Off Existing Roads/Trails	On Designated Roads/Trails	On/off designated roads/trails	On designated roads/trails
Designated Speed Limit	None	Not to Exceed 25mph Unless Otherwise Posted	Same as Alternative 2	Same as Alternative 2

[2] Other conditions may warrant a special recreation permit, including commercial and competitive events.

Table 2-5, continued.
Comparison of Alternatives— ~~Activity Plan Level~~ Management Actions
Las Cienegas Resource Management Plan

Implementation Issue and Associated Management Actions	Alternative 1 (Current Management)	Alternative 2 (Proposed)	Alternative 3	Alternative 4
Mineral Materials				
Defined Administrative Use	No	Yes, limited to <½ acre surface disturbance per project	Same as Alternative2	Same as Alternative2
Defined Casual Use	No	~~Yes, up to 1 cubic yard.~~ None allowed.	Same as Alternative 2	Same as Alternative 2.
Defined Rock Collecting	No	Yes, 25 lbs/day , not to exceed 250 lbs/year.	Same as Alternative 2	Same as Alternative 2

Implementation of these proposals would be coordinated with the Arizona State Land Department.

In some instances proposals, particularly for linear features such as rights-of-ways and road and trail designations, cannot be effectively implemented on public lands without also being implemented on intermixed State Trust Lands. In these instances, the plan determines the need for coordination with the Arizona State Land Department to ensure that necessary rights-of-way or other land authorizations are obtained prior to implementation of the proposal.

~~THE PROPOSED LAS CIENEGAS NATIONAL CONSERVATION AREA~~

~~As BLM was preparing this plan, Arizona Congressman Jim Kolbe introduced into Congress a bill (HR 2941) to designate the majority of the public lands within the Empire-Cienega Planning Area as the Las Cienegas National Conservation Area (NCA). The remaining public lands in the Empire-Cienega Planning Area were proposed for inclusion in the Sonoita Valley Acquisition Planning District. The Las Cienegas National Conservation Area and Sonoita Valley Acquisition Planning District were created when President Clinton signed the bill into law on December 6, 2000. Appendix 1 includes the text of Public Law 106-538.~~

~~The law requires BLM to prepare a management plan for the NCA within 2 years of the area's designation. The law acknowledges the effort that went into the preparation of this plan and the collaborative planning process by requiring that BLM prepare the NCA's management plan from a draft of the Empire-Cienega Management Plan and according to the goals and objectives developed by the Sonoita Valley Planning Partnership (SVPP).~~

~~This Proposed Las Cienegas Resource Management Plan has incorporated the draft Empire-Cienega plan. The goals and objectives developed by SVPP are the foundation for this plan and are described in detail in an earlier section of this Chapter. The alternatives in this plan are consistent with most of the provisions of the law establishing the Las Cienegas NCA. However, there are a few provisions, such as closing the public lands within the NCA to mineral entry, which are not consistent with one or more of the alternatives in this draft plan. Because of the timing of the law's passage, which occurred when the draft plan was nearly complete, we have not modified the draft plan and EIS to incorporate all provisions of the law. We will make those changes while preparing the final plan and EIS.~~

PART A--LAND USE PLAN ALTERNATIVES

Alternative 1--No Action (Current Management)

Alternative 1, the No Action Alternative, would continue current management. Current management has been ongoing under the interim management guidance for the Empire-Cienega Planning Area included in the Phoenix Resource Management Plan (BLM 1988) and the interim grazing plan (BLM 1995). The management goal for the area as stated in the interim management guidance is to "preserve, protect, and enhance the property's multiple use values. These values include an extensive riparian area, presence of an endangered species, outstanding small and big game habitat, magnificent open space, and potential for dispersed recreation activities such as hiking, horse-back riding, camping, and picnicking." Under current management, desired resource conditions include an emphasis on federally listed threatened and endangered fish and wildlife and

significant cultural properties. Land use allocations are limited to continuing the existing livestock grazing leases and continued closure to mineral exploration and development of lands acquired before the enactment of the Federal Land Exchange Facilitation Act of 1988. Alternative 1 would not designate utility corridors, ACECs, recreation zones, or an Arizona Trail corridor. As the baseline against which other alternatives are compared, Alternative 1 is required by the National Environmental Policy Act (NEPA).

Alternative 1--Land Use Plan Proposals

Desired Resource Conditions

Under Alternative 1, BLM would do the following to meet desired resource conditions:

Fish and Wildlife Management

Give priority management emphasis to four threatened or endangered species (i.e., Gila topminnow, Southwestern willow flycatcher, lesser long-nosed bat, and Huachuca water umbel), one proposed threatened species (Chiricahua leopard frog), and one candidate species (Gila chub).

Visual Resource Management

Designate 49,000 acres of public land as visual resource management (VRM) Class 3 (See Appendix 2, Visual Resource Management Class Objectives).

Cultural Resource Management

Manage the historically significant buildings at the Empire Ranch Headquarters for public use. ***(Common to All Alternatives)***

Manage selected cultural properties outside the ranch headquarters area for scientific and conservation use. As data is collected, some properties and sites could be allocated to public or experimental use or discharged from management.

Work with Native Americans to select harvesting areas for noncommercial collection of indigenous plants. ***(Common to All Alternatives)***

Recreation Management

Not establish recreation opportunity classes.

Land Use Allocations

Under Alternative 1, BLM would make the following land use allocations:

Fish and Wildlife Management

Manage suitable public land habitats for the recovery or reestablishment of native populations in collaboration with federal and state agencies, user groups, and other interested parties. Provide for the reintroduction of Gila topminnow into suitable habitats in accord with the existing BLM-Arizona Game and Fish Department Memorandum of Understanding.

Wildland Fire Management

BLM will suppress ~~all~~ natural or human-caused wildland fires by first addressing safety concerns to firefighters and the public and then addressing resource concerns. Because of the planning area's small size, and the proximity of an increasing number of homes in the wildland-urban interface, BLM ~~has determined that it~~ will ~~not~~ manage unplanned ignitions for the benefit of resources **only once public safety and property protection can be assured and in conformance with the RMP. Due to intermixed land ownership patterns, BLM will pursue development of and utilize a multi-agency fire management strategy in the planning area which will consider both ecological and administrative issues.**
(Common to All Alternatives).

Mineral Development

Under Alternative 1, all of the planning area's 48,542 acres of acquired public lands would remain closed to locatable and leasable (fluid) mineral exploration and extraction. The 458

acres in the Empire Mountains--which are original public domain--and the lands with split-estate federal minerals (~~5,914.6~~ 7,167 acres) would remain open to locatable and leasable minerals exploration and extraction. The planning area's 49,000 acres of public lands and ~~5914.62~~ 7,167 acres of spit-estate lands would remain closed to mineral material sales (i.e., salable minerals)(See Map 2-1).

Utility Corridors
Not designate utility corridors.

Land Use Permits
~~and~~ Continue to process on a case-by-case basis utility rights-of-ways and other land use authorizations.

Off-Highway Vehicle Management
Continue to limit vehicles to the existing road network pending full implementation of a designated road system on 49,000 acres of public land. The existing road system includes ~~116.4~~ 113.2 miles of open roads on public lands. Under current management a few roads are restricted or closed for resource or safety reasons, including ~~20.3~~ 21.1 miles of administrative use roads and ~~2.2~~ 1.2 miles of closed roads. **One new road of about 0.4 miles would be constructed as a bypass route at the Empire Ranch Headquarters** (See Map 2-2).

Arizona Trail
Not designate a corridor for the Arizona Trail.

Recreation Management
Not establish recreation zones.

Livestock Grazing Management
Continue to ~~authorize~~ **allocate 9,984 AUMs of forage for** livestock grazing on the public lands on the Empire-Cienega, Empirita, Rose Tree, and Vera Earl allotments (See Table 2-6), but not allocate ~~acreage~~ **forage** for livestock grazing on the 2,480 acres of public lands in the Empire Mountains (See Map 2-3).

The ~~Activity Plan Proposal~~ **Management Actions** section for Alternative 1 includes detailed narratives of livestock grazing management for each of the planning area's grazing allotments. These narratives discuss grazing strategies, **livestock numbers** ~~initial allocations~~, and proposed range improvements.

Special Designation Areas

Under Alternative 1, BLM would do the following:

Areas of Critical Environmental Concern
Not designate additional areas of critical environmental concern.

Wild and Scenic Rivers
Continue to manage the Cienega Creek Wild and Scenic Rivers Study Area to protect the resources pending congressional action on designation.
(Common to All Alternatives)

Land Tenure

Public lands in the planning area (Empire-Cienega Long-Term Management Area) to be retained and blocked up through acquisitions of lands or easements according to objectives and management prescriptions in the Safford RMP Land Tenure Plan Amendment.

Map 2-1
Alternative 1 - Current Minerals Management

Map 2-2
Alternative 1–Current Route Designations-North Half

11x17

BACK OF FOLD OUT

Map 2-2, South Half

Map 2-3
Alternative 1--Grazing Management

Table 2-6
Livestock Grazing under Alternative 1, Las Cienegas Resource Management Plan

Allotment	AUMs Allocated to Grazing	Total Acres	Total Acres Grazed	BLM Acres Grazed	BLM Acres Not Grazed[1]	ASLD Acres Grazed	Private Acres Total
Empire-Cienega (6090)	8,448	74,146	73,487	36,025	659	37,462	0
Empirita (6210)	108	24,988	23,908	440	1,080[2]	23,468	0
Rose Tree (6043)	1,104	8,869	8,869	3,950	0	3,719	1,200
Vera Earl (6129)	324	1,440	1,440	1,440	0	0	na
Empire Mountain	0	3,524	0	0	2,480	0	1,044
TOTAL:	**9,984**	**115,923**	**107,704**	**41,855**	**4,219**	**64,649**	**2,244**

[1] An additional 3,141 public land acres on the Appleton-Whittell ACEC are excluded from livestock grazing and not within an allotment. This amount would bring the total public land acres not grazed in the planning area to 7,360. The amount of acres within exclosures (ungrazed) is approximate. The exact number of excluded acres may vary depending on the number, size, and location of study exclosures which will be developed to help evaluate the effectiveness of grazing management..

[2] These 1,080 acres of public land in the Empirita allotment are a more recent land acquisition and have not been allocated for forage so stocking rates on the allotment have not been adjusted for the increased acreage. Therefore, these acres were not included in the BLM acres grazed column. However, they are not fenced from livestock so at times they may be subjected to livestock grazing.

The Action Alternatives (Alternatives 2, 3, and 4)

The three action alternatives differ from current management in several ways. Under all three, desired resource conditions would include maintaining or achieving goals and objectives for the planning area developed by the Sonoita Valley Planning Partnership. Management under all three alternatives would emphasize the following:

- Conservation of four rare vegetation communities and 18 associated priority species.
- Retention of the scenic values of the landscape.
- Preservation, adaptive restoration, or scientific investigation of significant cultural properties.

The action alternatives propose differing land use allocations for mining, utility corridors, recreation zones, corridors for the Arizona Trail, and grazing. Each would make special designations for areas of critical environmental concern (ACECs).

Alternative 2--Land Use Plan Proposals (Agency Preferred)

Alternative 2 emphasizes ecosystem management and the use of partnerships and collaboration during implementation to achieve desired resource conditions. Biannually, a Biological Planning Team would collaboratively evaluate monitoring data and issues relating to livestock grazing, recreation, and wildlife management for the primary goal of maintaining or achieving desired resource conditions. BLM would designate all public lands within the planning area as an area of critical environmental concern (ACEC) to protect sensitive riparian and wetland habitats. Livestock grazing would continue on public land allotments, but grazing operations would incorporate variable stocking rates and flexible rotations. BLM would designate two utility corridors and a corridor for the Arizona Trail and would close or restrict the use of some roads to provide a mix of motorized and non-motorized recreation, while ensuring that desired resource conditions are met. Both mechanized and motorized vehicles would be restricted to designated routes. ***(This alternative is preferred by participants in the Sonoita Valley Planning Partnership.)***

Desired Resource Conditions

Under Alternative 2 (Agency Preferred), BLM would do the following to meet desired resource conditions:

Watershed: Upland, Riparian and Aquatic Management

Manage public lands to achieve and maintain the goals and desired resource objectives for upland vegetation, riparian vegetation, and aquatic habitats developed through the Sonoita Valley Planning Partnership and described at the beginning of this chapter.
(Common to Alternatives 2, 3, and 4)

Fish and Wildlife Management

Manage public lands to achieve and maintain the goals and desired resource objectives for fish and wildlife developed through the Sonoita Valley Planning Partnership and described at the beginning of this chapter.
(Common to Alternatives 2, 3, and 4)

Use an ecosystem approach to manage the four rare habitats (i.e., grassland, riparian/wetland, mesquite bosque, and oak woodland) that support the following priority species:

Fish

Gila topminnow (T&E)
Gila chub (federal candidate)
Longfin dace

Amphibians and Reptiles

Lowland leopard frog
Chiricahua leopard frog (~~federal candidate~~ T&E)
Mexican garter snake

Birds

Southwestern willow flycatcher (T&E)
Yellow billed cuckoo (key riparian species)
Gray hawk (key raptor species)
Baird's sparrow (key grassland sparrow)
Botteri's sparrow (key sacaton species)

Mammals

Jaguar (T&E)
Lesser long-nosed bat (T&E)
Pronghorn (desirable big game and watchable wildlife species)
Mule deer (desirable big game species)
White-tailed deer (desirable big game species)
Javelina (desirable big game species)

Plants

Huachuca water umbel (T&E)

Visual Resource Management
Designate 49,000 acres of public land as visual resource management (VRM) Class II (See Appendix 2, Visual Resource Management Class Objectives).
(*Common to Alternatives 2, 3, and 4)*

Cultural Resource Management
Manage public lands to achieve and maintain the goals and desired resource objective for cultural resources developed through the Sonoita Valley Planning Partnership and described at the beginning of this chapter.
(Common to Alternatives 2, 3, and 4)

Manage the historically significant buildings of the Empire Ranch Headquarters for public use.
(Common to All Alternatives)

Manage selected cultural properties outside the ranch headquarters area for scientific, conservation and public use. As data are collected, some properties and sites could be allocated to experimental use or discharged from management.

Work with Native Americans to select harvesting areas for noncommercial collection of indigenous plants.
(Common to All Alternatives)

Recreation Management
Manage public lands to achieve and maintain the goals and desired resource objective for recreation opportunities developed through the Sonoita Valley Planning Partnership and described at the beginning of this chapter.
(Common to Alternatives 2, 3, and 4)

In accord with these desired recreation goals and objective, manage public lands to maintain the three recreation opportunity settings (Roaded Natural, Natural, and Back Country) on public lands as described in Table 2-7.
(Common to Alternatives 2, 3, and 4)

The descriptions for Zones 0 (Rural) and Zone 4 (Primitive) are provided for reference. These zones occur in lands adjacent to the planning area in Sonoita and in the Mount Wrightston Wilderness, respectively.

Land Use Allocations
Under Alternative 2, BLM would make the following land use allocations:

Fish and Wildlife Management
Manage suitable public land habitats for the recovery or reestablishment of native populations in collaboration with federal and state agencies, user groups, and other interested parties. Provide for the reintroduction of Gila topminnow into suitable habitats in accordance with the existing BLM-AGFD Memorandum of Understanding. In addition, provide for the reintroduction, ~~range extensions,~~ or supplementation of the following endangered, threatened, candidate and priority species within suitable habitats in accordance with existing regulations, policies and agreements:
(Common to Alternatives 2, 3, and 4)

- Gila chub
- Desert pupfish
- Southwestern willow flycatcher
- Aplomado falcon
- ~~Native~~ **Chiricahua** leopard frog
- **Lowland leopard frog**
- Black-tailed prairie dog
- Beaver
- Pronghorn
- Gould's turkey

Wildland Fire Management
BLM will suppress ~~all~~ natural or human-caused wildland fires by first addressing safety concerns to firefighters and the public and then addressing resource concerns. Because of the planning area's small size, and the proximity of an increasing number of homes in the wildland-urban interface, BLM ~~has determined that it~~ will

Table 2-7
Desired Recreation Opportunity Settings, Empire-Cienega Planning Area

	Zone 0 Rural	Zone 1 Roaded Natural	Zone 2 Natural	Zone 3 Back Country	Zone 4 Primitive
Desired Resource Setting	Somewhat natural environment with human changes strongly evident, including residences, businesses, and other structures; paved highways; county roads; improved and unimproved dirt roads; and utility lines and sites.	Generally natural environment with human modifications moderately evident, including house and other structures at ranch headquarters, improved dirt roads, range developments, and utility lines.	Mostly natural environment with low to moderate evidence of human changes, including unimproved and improved dirt roads, range developments, and utility lines.	Predominately natural environment of moderate to large size. Human modifications occasionally to somewhat evident, including unimproved dirt roads, range developments, and utility lines.	Predominately natural environment with human modifications rarely to occasionally evident, including unimproved trails and range developments .
	Some visitor impacts to soil and vegetation persist from year- to-year, typically in areas of moderate to high use, such as campsites, scenic overlooks, and interpretive sites.	Some visitor impacts to soil and vegetation persist from year-to-year, typically in areas of higher use, such as interpretive sites. Resource changes are evident but harmonious with the natural environment.	Some visitor impacts to soil and vegetation persist from year- to-year, typically in areas of moderate use, such as designated camping areas, group sites, and pullouts.	Most visitor impacts to soil and vegetation recover yearly, typically in areas of light and dispersed use such as desirable camping areas and trails.	Most visitor impacts to soil and vegetation recover annually and are typically found with light use in dispersed recreation concentration areas, such as desirable camping areas and trails.
Desired Social Setting	Opportunities for solitude low to moderate. Degree of challenge and risk low to moderate.	Opportunities for solitude low to moderate, degree of challenge and risk low to moderate. Moderate level of interaction among visitors.	Opportunities for solitude moderate to high, degree of challenge and risk low to moderate. Low to moderate level of interaction among visitors.	Opportunities for solitude moderate to excellent, degree of challenge and risk moderate to high. Low level of interaction among visitors, but may encounter some evidence of other users.	Opportunities for solitude generally excellent, degree of challenge and risk moderate to high. Low level of interaction among visitors, but may find minor evidence of other users.

Table 2-7, continued
Desired Recreation Opportunity Settings, Empire-Cienega Planning Area

	Zone 0 Rural	Zone 1 Roaded Natural	Zone 2 Natural	Zone 3 Back Country	Zone 4 Primitive
Desired Managerial Conditions	Focus on maintaining recreation settings that often give users security and convenience.	Focus on maintaining recreation settings that occasionally to often give users security and convenience.	Focus on maintaining recreation settings that rarely to occasionally give users security and convenience.	Focus on maintaining recreation settings that rarely to occasionally give users security and convenience.	Focus on maintaining recreation settings that rarely give users security and convenience. Only subtle if any onsite controls and restrictions.
Signing		Occasional, including regulatory, interpretive, and directional signs.	Rare to occasional, including regulatory, interpretive, and directional signs.	Rare, including regulatory, interpretive, directional signs, as needed.	
Typical Road Standard		Improved dirt or gravel with moderate maintenance.	Improved dirt or gravel with occasional maintenance.	Dirt, rarely maintained.	
Degree of User Facilities Developed		Low to Moderate	Low	Very Low to None	
Visitor Information (Type, Level, and Location)		Formal/Informal, Moderate, Onsite /Offsite	Informal, Low, Offsite	Informal, Low, Offsite	

~~not~~ manage unplanned ignitions for the benefit of resources **only once public safety and property protection can be assured and in conformance with the RMP. Due to intermixed land ownership patterns, BLM will pursue development of and utilize a multi-agency fire management strategy in the planning area which will consider both ecological and administrative issues.** (Common to All Alternatives).

Mineral Development

Under Alternative 2, the planning area's 48,542 acres of acquired public lands would remain closed to locatable and leasable mineral exploration and extraction (See Map 2-4). Public lands acquired in the future within the planning area would be closed to locatable and leasable mineral exploration and extraction. In addition, BLM would take the following actions:

Map 2-4
Alternatives 2 and 4–Mineral Management

- Petition to withdraw 458 acres of public domain lands in the Empire Mountains.

- Petition to withdraw ~~4,474.44~~ 5,726.86 acres of federal mineral estate with private surface and 1,440.18 acres of federal mineral estate with state surface from locatable and leasable mineral exploration and extraction.

- Not authorize mineral material sales on public lands in the planning area.

Utility Corridors
Designate two major utility corridors across public lands in the planning area (See Map 2-5):

- A 60-foot-wide corridor for buried utility lines running next to the existing El Paso Gas line right-of-way (with an option to tie into and within the existing El Paso easement through a cooperative agreement with El Paso Gas).

- A ~~1/8-mile~~ 500-foot-wide corridor for overhead utility lines in the northeast part of the planning area. This corridor already has two overhead utility lines. No new lines can be placed west and south of Mattie Canyon. **Any proposed new lines would need to be placed within this corridor and east of the existing lines**.

All major utilities crossing public lands would be routed through the designated corridors and BLM would advise utilities to consider east-west routes along corridors proposed by the 1992 Western Regional Corridor Study-Arizona Map. Because of the configuration of the public land corridors and presence of intermixed State Trust Lands, the utility would also need to apply for and obtain a right-of-way from the Arizona State Land Department.

Land Use Permits
BLM would continue to consider other land use authorizations on a case-by-case basis with stipulations attached to any permits or leases to ensure consistency with the plan's goals and objectives.

Off-Highway Vehicle Management
Limit both motorized and mechanized vehicles to designated roads and trails on the 49,000 acres of public land according to the designated transportation system (See Map 2-6).
~~*(Common to All Alternatives)*~~

Under Alternative 2, **BLM** would make the following ~~road and trail~~ route designations **on public lands to implement the Off-Highway Vehicle designation of Limited to Designated Roads (See Map 2-6)**:

.

- ~~93.9~~ 91.9 miles would be open for motorized travel by the public.

- **0.4 miles of new road would be constructed as a bypass at the Empire Ranch Headquarters**.

- ~~1.0~~ 0.7 mile would be open for motorized travel by the public seasonally.

- ~~27.0~~ 28.7 miles would be designated for administrative use only.

- 6.6 miles would be converted to non-motorized trail for travel by mechanized vehicles, horseback, or foot.

- ~~16.0~~ 13.7 miles would be closed and rehabilitated.

Roads designated as administrative use only may be opened temporarily for public use if needed to provide alternate access. This could occur if a route designated open for public use has to be closed temporarily for resource or public safety concerns.

Map 2-5
Alternative 2--Utility Corridors

Map 2-6
Alternative 2--Route Designations - North Half

11x17

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Route Designations - Alternative 2 South Half

In addition to the above miles of roads and trails, the designated transportation system will also include the 11.6 miles of non-motorized Arizona Trail (see below), the *Heritage Discovery Trail* (a hardened interpretive trail at the Empire Ranch Headquarters, which is described under the Cultural Resource Management section of the Alternative 2 ~~Activity Plan~~ **Management Actions)**, and the ~~SAMBA~~ North Canyon non-motorized trail described in the Alternative 2 ~~Activity Plan~~ **Management Actions**.

~~In addition, BLM will recommend to the Arizona State Land Department that similar designations be considered for the segments of these roads that cross intermixed State Trust Lands.~~ **For lands acquired in the future, road designations on intermixed non-BLM lands (shown on Map 2-6 as dashed lines) would be implemented for consistent management. Route designations on other surrounding lands in the Acquisition Planning District, which may be acquired in the future by BLM, would be determined through a public process after acquisition.**

Recreation Management

Establish three recreation zones on public lands within the planning area (Map 2-7) and manage them to conform to the three recreation opportunity settings described in Table 2-7 (Desired Resource Conditions) and in accord with the desired recreation goals and objective ***(Common to Alternatives 2, 3, and 4)***. The ~~Activity Plan~~ **Management Actions** for Alternative 2 describe in more detail recreation management within these zones. The size, location, and configuration of Zone 1 would be the same under Alternatives 2, 3, and 4.

- Zone 1 (Roaded Natural) offers developed, concentrated activities for a wide range of visitor types. It has easy access and visitor, interpretive, and educational facilities. It generally allows day use with no public camping. Motorized traffic is directed to use designated parking, pullouts, and the loop drive. Recreation Zone 1 would consist of a half-mile-wide corridor along the entrance road (from Highway 83 to ranch headquarters). This zone would include the ranch headquarters and Empire Gulch Spring and would encompass 1,109 acres of public land. ***(Common to Alternatives 2, 3, and 4)***

- Zone 2 (Natural) offers moderate access with infrequently maintained roads; concentrated visitor use in designated areas, including camping, parking, pullouts and group sites; and limited visitor facilities and interpretation. Under Alternative 2, Recreation Zone 2 would consist of 3,504 acres of public land, including half-mile-wide corridors along Oak Tree Canyon and South Roads.

- Zone 3 (Back Country/Semi-Primitive) offers a low concentration of visitors and a predominately natural environment, variable access that is likely to be difficult, low to no visitor facilities, limited signs, and dispersed low-impact recreational opportunities. Under Alternative 2, Recreation Zone 3 would consist of the remaining 44,387 acres of public lands in the planning area..

Arizona Trail

Designate a corridor for the Arizona Trail across 11.6 miles of public lands (Map 2-8), determining the exact route after completing site assessments, including cultural resource surveys. The Arizona Trail within this corridor would require 9.3 miles of new trail building across public lands. About 1.7 miles of trail would be shared use on existing roads, and 0.6 miles would be converted from an abandoned road. To have a continuous trail, the corridor would also have to cross State Trust Lands after leaving BLM-administered lands near Wood Canyon. For the trail to cross State Trust Land,

Map 2-7
Alternative 2–Recreation Zones

Map 2-8
Alternative 2--Arizona Trail Route

a right-of-way must be obtained from the Arizona State Land Department Except for the segment that is shared use, the Arizona Trail will be non-motorized and available for hiking, horseback, or mountain bike use.

Livestock Grazing Management

Under Alternative 2, BLM would allocate 10,524 AUMs of forage for livestock grazing on approximately 42,155 acres of public land and continue to authorize livestock grazing on the Empire-Cienega, Empirita, Rose Tree, and Vera Earl allotments (Table 2-8).

BLM would also allocate ~~acreage~~ 360 AUMs of forage for livestock grazing on the approximately 2,480 acres of public lands in the Empire Mountains. (Map 2-9). The Empire Mountains allotment would not be activated until the prerequisites described in the ~~activity plan~~ Management Actions section of this alternative are completed. If the allotment is not activated within five years of the date of the Record of Decision on this plan, then the BLM would reassess the situation and consider reallocating the forage to watershed and other uses.

Table 2-8
Livestock Grazing under Alternative 2, Las Cienegas Resource Management Plan

Allotment	AUMs Allocated to Grazing	Total Acres	Total Acres Grazed	BLM Acres[1] Grazed	BLM Acres[2] Not Grazed	ASLD Acres	Private Acres
Empire-Cienega (6090)	8,448	74,146	71,827	3,4365	2,319	37,462	0
Empirita (6210)	288	24,988	24,468	1,000	520	23,468	0
Rose Tree (6043)	1,104	8,869	8,469	3,550	400	3,719	1,200
Vera Earl (6129)	324	1,440	1,240	1,240	200	0	N/A
Empire Mountains	360	3,524	3,044	2,000	480	0	1,044
TOTAL:	**10,524**	**115,923**	**109,048**	**42,155**	**3,919**	**64,649**	**2,244**

[1] The number of acres available for grazing will vary with the number of acres in exclosures for both management and study purposes.
[2] The exact number of excluded acres may vary depending on the number, size, and location of study exclosures which will be developed to help evaluate the effectiveness of grazing management. An additional 3,141 public land acres in the Appleton-Whittell ACEC are excluded from livestock grazing and are not within an allotment, bringing to 7,060 the total public land acres excluded from livestock grazing.

Map 2-9
Alternatives 2 and 3–Grazing Management

~~But~~ BLM would authorize grazing use in riparian pastures and exclosures **only at designated livestock crossing lanes and watering areas** or to meet resource objectives. For each of these allotments the ~~Activity Plan~~ **Management Actions** for Alternative 2 ~~has~~ **have** detailed narratives of livestock grazing management, including grazing strategies, ~~initial allocations~~ **livestock numbers**, and proposed range improvements.

Special Designation Areas

Under Alternative 2, BLM would make the following special designations:

Areas of Critical Environmental Concern

Designate the Empire-Cienega Area of Critical Environmental Concern (ACEC) on 45,859 acres of public lands within the planning area Map 2-10). This ACEC would include all of the planning area's public lands except for the 3,141 acres of public lands now within the Appleton-Whittell ACEC (Research Ranch), which would remain as a separate ACEC and be renamed the Appleton-Whittell Research ACEC.

Any State Trust and private lands acquired in the future within the **planning area** ~~ACEC~~ boundaries **north of the Babocomari Land Grant** would be incorporated into the Empire-Cienega ACEC and managed according to the prescriptions of this plan. **Future acquisitions of State Trust and private lands within the planning area boundaries south of the Babocomari Land Grant would be incorporated into the Appleton-Whittell Research ACEC and managed for research values.**

The ~~Activity Plan~~ **Management Actions** for Alternative 2 would be the proposed management plan for the Empire-Cienega ACEC, including all management proposals common to Alternatives 2, 3, and 4 and all proposals specific to Alternative 2. See Appendix 2 for full descriptions of the ACECs, including management prescriptions. Appendix 2 also summarizes management prescriptions for the Appleton-Whittell Research ACEC from the Phoenix RMP (BLM 1988). **These are incorporated by reference into this RMP).** Table 2-9 summarizes the management prescriptions that would apply to the Empire-Cienega ACEC under Alternative 2 and compares these restrictions to those for ACEC management under Alternatives 3 and 4.

Wild and Scenic Rivers

Continue to manage the Cienega Creek Wild and Scenic Rivers Study Area to protect resources pending congressional action on designation.
(Common to All Alternatives)

Land Tenure

Public lands in Las Cienegas NCA would be retained and additional public lands or easements would be acquired within the Sonoita Valley Acquisition Planning District according to the prescriptions in the Las Cienegas RMP/EIS Acquisition Strategy (See Appendix 2). The Acquisition Strategy includes criteria for prioritizing acquisitions and identifies both traditional and non-traditional means of acquisition from the NCA Act and other legislation.

Public lands which become contiguous with the NCA due to acquisitions of intermixed lands become part of the NCA. Acquisitions within the Sonoita Valley Acquisition Planning District become part of the NCA upon acquisition.

Any acquisitions of lands or easements inside the planning area (Empire-Cienega Long-Term Management Area) but outside the Sonoita Valley Acquisition Planning District would be completed according to objectives and management prescriptions in the Safford RMP Land Tenure Plan Amendment (summarized in the Management Guidance section of Appendix 2. *(Common to Alternatives 2, 3, and 4)*

Map 2-10
Alternatives 2 and 4 - Special Designation Areas

Table 2-9
Summary of Management Within Areas of Critical Environmental Concern (ACECs)
Under Alternatives 2, 3, and 4, Las Cienegas Resource Management Plan

	Alternative 2	Alternative 3	Alternative 4
Watershed and Riparian Area Management			
~~Require permits for for collecting and harvesting plant materials in any amounts.~~ **Establish limits on types and amounts of plant materials which can be collected or harvested.**	Yes	Yes[1]	Yes
Limit development on the 100-year floodplain of Cienega Creek to that needed to reduce impacts on riparian and aquatic areas.	Yes	Yes	Yes
Restrict activities **that are** found to degrade streambank stability and **that** decrease bank stability rating to below 90%.	Yes	Yes	Yes
Rights-of-Way Management			
Restrict major utility rights-of-way to designated corridors.	Yes	Yes[1]	Yes
Minerals Management			
Keep acquired public lands closed to locatable and leasable mineral extraction. Subject to valid existing rights, withdraw public domain lands to locatable and leasable mineral entry. Do not authorize mineral material sales.	Yes	~~locatable only. NSO for leasable in ACEC~~[2] **Yes**[2]	Yes
~~Require free use permits for~~ Prohibit removal of mineral materials for personal use.	~~Yes~~ **No**	~~Yes~~[1] **No**[1]	~~Yes~~ **No**
Prohibit recreational gold panning, dredging, or sluicing within Cienega Creek or its tributaries on public lands.	Yes	Yes	Yes
Livestock Grazing Management			
Base livestock numbers on resource conditions and set them through the biological planning process.	Yes[e]	No	N/A
Limit livestock use in riparian areas of Cienega Creek and Nogales Springs to crossing lanes, watering areas, and areas where livestock grazing is needed as a management tool to meet a riparian or aquatic-related resource objective.	Yes	Yes	N/A
Adjust livestock grazing rotation and use levels and develop fencing, as needed, to meet cover requirements for pronghorn fawning and grassland sparrows.	Yes	Yes[3,4]	N/A

Table 2-9, continued
Summary of Management Within Areas of Critical Environmental Concern (ACECs)
Under Alternatives 2, 3, and 4, Las Cienegas Resource Management Plan

	Alternative 2	Alternative 3	Alternative 4
Recreation Management			
Limit motorized vehicles to designated roads on 49,000 acres of public land.	Yes	Yes[1]	Yes
Allow motorized and non-motorized permitted group activities to cross Cienega Creek only at dry crossings or designated road and trail crossings.	Yes	Yes	Yes
Prohibit camping in riparian areas within 100 feet of the water's edge on each side of the stream.	Yes	Yes	Yes
Do not authorize dog trials and require that dogs be leashed In important pronghorn fawning areas during the fawning season (April-June).	Yes	Yes[4]	Yes
Place travel restrictions (administrative or seasonal use) or closures on roads which are impacting sensitive resources.	Yes 44.0 miles	Yes[1] 42.7 miles	Yes 57.2 miles
Keep public lands in Recreation Zone 3 open to dispersed camping. Restrict camping on public lands in recreation Zone 2 to designated areas. Close public lands in Recreation Zone 1 to camping.	Yes	Yes[3]	Yes

[1] For Alternative 3, this restriction would apply to all public lands in the planning area, not just lands within ACECs.
[2] For Alternative 3, Public lands in NCA would be closed to locatable mining and leasable minerals extraction, and public lands in ACECs would be closed to locatable mining. On public lands in ACECs that are not within the NCA, leasable minerals could be extracted, but drilling could not involve surface occupancy. NSO = no surface occupancy (NSO).
[3]For Alternative 2, flexible livestock stocking will occur but an upper limit will be established in the Land Use Plan.
[4]For Alternative 3, this restriction would apply to all public lands in the planning area, but the ACEC would have no lands designated Recreation Zone 1 or 2, or pronghorn or grassland sparrow habitat.

Alternative 3: Land Use Plan Proposals

Alternative 3 proposes allowing the greatest mix of land uses with restrictions to protect sensitive areas. It would designate two ACECs to protect sensitive riparian and wetland habitats. Outside the ACECs, public lands would be opened to mining, oil and gas leasing, and mineral sales. Livestock grazing would continue on public land allotments, but current livestock grazing operations would be modified by reducing livestock numbers to conservative fixed stocking rates and establishing structured pasture rotations rather than variable stocking rates, seasonal use, and flexible rotations. BLM would designate three utility corridors and a corridor for the Arizona Trail. Alternative 3 proposes fewer road closures and restrictions than do Alternatives 2 and 4, with emphasis on a mix of motorized and non-motorized recreation opportunities. Alternative 3 would also limit camping to designated sites on the most acreage.

Desired Resource Conditions

Under Alternative 3, BLM would do the following to meet desired resource conditions:

Watershed: Upland, Riparian and Aquatic Management
Apply management to meet and maintain the goals and objectives (desired future conditions) for upland vegetation, riparian vegetation and aquatic habitats as described for Alternative 2.
(Common to Alternatives 2,3, and 4)

Fish and Wildlife Management
Apply management to meet and maintain the goals and objectives (desired future conditions) for fish and wildlife and place management emphasis on the four rare habitats that support 18 priority species as described for Alternative 2.
(Common to Alternatives 2,3, and 4)

Visual Resource Management
Designate 49,000 acres of public land as visual resource management (VRM) Class II (See Appendix 2, Visual Resource Management Class Objectives).
(Common to Alternatives 2,3, and 4)

Cultural Resource Management
Under Alternative 3, management of cultural resources in the planning area would be the same as under Alternative 2.

Recreation Management
Manage to maintain three recreation opportunity settings on public lands as described for Alternative 2.
(Common to Alternatives 2, 3, and 4)

Land Use Allocations
Under Alternative 3, BLM would make the following land use allocations:

Fish and Wildlife Management
Manage suitable public land habitats for the recovery or reestablishing of native populations in collaboration with federal and state agencies, user groups and other interested parties. Provide for reintroducing Gila topminnow into suitable habitats in accord with the existing BLM-AGFD Memorandum of Understanding. In addition, provide for reintroducing the following endangered, threatened, candidate, and priority species in accord with existing regulations, policies, and agreements:
(Common to Alternatives 2, 3, and 4)

- Gila chub
- Desert pupfish
- Southwestern willow flycatcher
- Aplomado falcon
- Native leopard frogs
- Black-tailed prairie dog
- Beaver
- Pronghorn
- Gould's turkey

Wildland Fire Management
BLM will suppress ~~all~~ natural or human-caused wildland fires by first addressing safety concerns to firefighters and the public and then addressing resource concerns. Because of the planning area's small size, and the proximity of an increasing number of homes in the wildland-urban interface, BLM ~~has determined that it~~ will ~~not~~ manage unplanned ignitions for the benefit of resources **only once public safety and property protection can be assured and in conformance with the RMP. Due to intermixed land ownership patterns, BLM will pursue development of and utilize a multi-agency fire management strategy in the planning area which will consider both ecological and administrative issues**.
(Common to All Alternatives).

Mineral Development
Outside of ACECs, open 41,000 acres of acquired lands to locatable mineral exploration and extraction and open future acquired public lands in the planning area to locatable mineral exploration and extraction under the General Mining Law subject to the 43 CFR 3809 and 43 CFR 3715 regulations (Map 2-11). In addition, BLM would open ~~45,859~~ **45,358** acres of public lands to mineral leasing (fluid minerals) subject to standard lease terms, conditions and stipulations. BLM would allow no surface

occupancy in any ACECs, nor would BLM authorize mineral material sales. On the rest of the public lands, BLM would consider mineral materials sales on a case-by-case basis. The Appleton-Whittell ACEC will remain closed to mineral entry and leasing.

Note: This proposal under Alternative 3 could not be implemented as it would violate the provisions of Las Cienegas NCA Act. The Act stipulates that all public lands within the NCA are to be closed to mineral entry and leasing and that public lands within the Sonoita Valley Acquistion Planning District are also to be managed in accordance with the Act.

Utility Corridors
Designate three major utility corridors across public lands in the planning area (Map 2-12):

- A 60-foot-wide corridor for buried utility lines running next to the existing El Paso Gas line right-of-way (with an option to tie into and within the existing El Paso easement through a cooperative agreement with El Paso Gas).

- A ~~1/8-mile~~ **500-foot**-wide corridor for overhead utility lines. This corridor now has two overhead utility lines in the northeast part of the planning area. **No new lines can be placed west and south of Mattie Canyon. Any proposed new lines would need to be placed within this corridor and east of the existing lines.**

- A 50-foot-wide corridor for buried utility lines along State Highway 82 between Sonoita and the Cochise County line next to the Arizona Department of Transportation right-of-way.

All major utilities crossing public lands would be routed through the designated corridors and BLM would also advise utilities to consider east-west routes along corridors proposed by the 1992 Western Regional Corridor Study-Arizona Map. Because of the configuration of the public land corridors and presence of intermixed State Trust Lands, the utility would also need to apply for and obtain a right-of-way from the Arizona State Land Department.

Land Use Permits
BLM would continue to consider other land use authorizations on a case-by-case basis with stipulations to any permits or leases to ensure consistency with the plan.

Off-Highway Vehicle Management
Limit motorized (but not mechanized) vehicles to designated roads and trails on the 49,000 acres of public land according to the designated transportation system (Map 2-13).
~~***(Common to All Alternatives)***~~

Under Alternative 3, BLM would make the following route designations on public lands **to implement the Off-Highway Vehicle designation of Limited to Designated Roads (Map 2-13)**:

.
- ~~94.2~~ **89.0** miles open to public motorized travel.

- **0.4 miles of new road would be constructed as a bypass at the Empire Ranch Headquarters.**

- ~~5.9~~ **4.4** miles seasonally open to public motorized travel.

~~25.4~~ **30.5** miles designated for administrative use only.

- ~~7.6~~ **6.8** miles converted to non-motorized trail for travel by mechanized vehicles, horses, and foot.

- ~~11.4~~ **9.8** miles closed and rehabilitated.

Roads designated as administrative use only may be opened temporarily for public use if needed to provide alternate access. This could

Map 2-11
Alternative 3--Minerals Management

Map 2-12
Alternative 3--Utility Corridors

Map 2-13
Alternative 3–Route Designations -North Half

11x17

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Route Designations - Alternative 3 South Half

occur if a route designated open for public use has to be closed temporarily for resource or public safety concerns.

In addition to the above miles of roads and trails, the designated transportation system will also include the 14 miles of non-motorized Arizona Trail (see below), and the *Heritage Discovery Trail* (a hardened interpretive trail at the Empire Ranch Headquarters, which is described under the Cultural Resource Management section of the Alternative 2 ~~Activity Plan~~ Management Actions).

~~In addition, BLM will recommend to the Arizona State Land Department that similar designations be considered for the segments of these roads that cross intermixed State Trust Lands.~~ For lands acquired in the future, road designations on intermixed non-BLM lands (shown on Map 2-13 as dashed lines) would be implemented for consistent management. Route designations on other surrounding lands in the Acquisition Planning District which may be acquired in the future by BLM, would be determined through a public process after acquisition.

~~BLM has not secured~~ Legal public access has not been secured to many of the ~~94.2~~ 89.0 miles of public land roads, that ~~this~~ Alternative 3 would designate as open. In the future, other landowners ~~may~~ could close access ~~to~~ on some roads or portions of roads. In addition, BLM ~~may~~ might close roads or portions of roads seasonally, temporarily, or in emergencies ~~close roads or portions of roads~~ where hazard or resource conditions warrant. To address resource or management concerns, BLM ~~may~~ might also build new road segments to replace existing roads ~~in response to resource or management concerns~~. As described under the ~~Activity Plan~~ Management Actions for Alternative ~~3~~ 2, BLM would pursue legal public access on four road segments crossing Arizona State Trust Lands.
(Common to Alternatives 2, 3, and 4)

Recreation Management

Establish three recreation zones on public lands within the planning area (Map 2-14) and manage them to conform to the three recreation opportunity settings described in Table 2-7 (Desired Resource Conditions) and in accord with the desired recreation goals and objective ***(Common to Alternatives 2, 3, and 4)***. The ~~Activity Plan~~ Management Actions for Alternative 3 describes in more detail the management of recreation within these zones. The size, location, and configuration of Zone 1 would be the same under Alternatives 2, 3, and 4.

- Zone 1 (Roaded Natural) offers developed, concentrated activities for a wide range of visitor types. This zone has easy access with visitor, interpretive, and educational facilities. It generally allows day use with no public camping. Motorized traffic is directed to use designated parking, pullouts, and the loop drive. Recreation Zone 1 would consist of a half-mile wide corridor along the entrance road (from Highway 83 to ranch headquarters). This zone would include ranch headquarters and Empire Gulch Spring and would encompass 1,109 acres of public land. ***(Common to Alternatives 2, 3, and 4)***

- Zone 2 (Natural) offers moderate access with infrequently maintained roads. Visitor use is concentrated in designated areas, including camping, parking, pullouts, and group sites. Visitor facilities and interpretation are limited. Under Alternative 3, Recreation Zone 2 would consist of 16,851 acres of public land, including land bounded by Oak Tree Canyon to the north and South Road to the east. This zone would also include a half-mile-wide corridor along the road from ranch headquarters to the Agricultural Fields and the public lands west of Highway 83.

Map 2-14
Alternative 3–Recreation Management Zones

- Zone 3 (Back Country/Semi-Primitive) offers low concentrations of visitors and a predominately natural environment. It has variable access that is likely to be difficult, low to no visitor facilities, limited signs, and dispersed low-impact recreational opportunities. Under Alternative 3, Recreation Zone 3 would consist of the remaining 31,040 acres of public lands in the planning area.

Arizona Trail

Designate a corridor for the Arizona Trail across 14 miles of public land (Map 2-15) and determine the trail's exact route within this corridor after completing site assessments, including cultural resource surveys. For the trail to pass within this corridor, 11.2 miles of new trail would need to be built across public lands. The remaining 2.8 miles would consist of shared use on existing roads. To have a continuous trail, the corridor would also have to be routed across 1 mile of intermingled State Trust Lands. For the trail to cross State Trust Land, a right-of-way must be obtained from the Arizona State Land Department. Except for the segment that is shared use, The Arizona Trail will be non-motorized and open to hiking, horseback, or mountain bike use.

Livestock Grazing Management

Under Alternative 3, BLM would allocate **5,880 AUMs of forage on approximately** ~~43,895~~ **45,375** acres of public land for livestock grazing and continue to authorize livestock grazing on the Empire-Cienega, Empirita, Rose Tree, and Vera Earl allotments (Table 2-10). **BLM would** also **be allocating** ~~allocate~~ ~~acreage~~ **360 AUMs of forage** for livestock grazing on the **approximately** 2,480 acres of public lands in the Empire Mountains, where a new grazing allotment would be established (See Map 2-9).

The Empire Mountains allotment would not be activated until the prerequisites described in the Management Actions section of Alternative 3 are completed. If the allotment is not activated within five years of the date of the Record of Decision on this plan, then the BLM would reassess the situation and consider reallocating the forage to watershed and other uses.

BLM would authorize grazing use in riparian pastures and exclosures **only at designated livestock crossing lanes and watering areas** or to meet a resource objective. The ~~Activity Plan~~ **Management Actions** for Alternative 3 includes detailed narratives of livestock grazing management for each of these allotments, including grazing strategies, ~~initial allocations~~ **livestock numbers**, and proposed range improvements.

Special Designation Areas

Under Alternative 3, BLM would make the following special designations:

Areas of Critical Environmental Concern

Designate two ACECs on 4,859 acres of public land within the planning area:

- Designate 4,418 acres of public lands as the Cienega Creek ACEC (Map 2-16), which would include the entire perennial portion of Cienega Creek; perennial reaches of Gardner Canyon, Empire Gulch, and Mattie Canyon; and mesquite bosque and sacaton grasslands along the riparian areas.

Table 2-10
Livestock Grazing under Alternative 3, Las Cienegas Resource Management Plan

Allotment	AUMs of Forage Allocated for Grazing	Total Acres	Total Acres Grazed	BLM Acres Grazed	BLM Acres Not Grazed[1]	ASLD Acres	Private Acres
Empire-Cienega (6090)	4,680	74,146	73,487	36,025	659	37,462	0
Empirita (6210)	168	24,988	24,948	1,480	40	23,468	0
Rose Tree (6043)	516	8,869	8,869	3,950	0	3,719	1,200
Vera Earl (6129)	192	1,440	1,440	1,440	0	0	N/A
Empire Mountains	324	3,524	3,524	2,480	0	0	1,044
TOTAL:	**5,880**	**115,923**	**107,704**	~~43,895~~ 45,375	699	64,649	2,244

[1] An additional 3,141 public land acres on the Appleton-Whittell ACEC would be excluded from livestock grazing and are not within an allotment, bringing the total public land acres excluded to 3,840.

- Designate 441 acres of public land as Nogales Springs ACEC, including Little Nogales and Nogales Springs.

Any State Trust and private lands acquired in the future within the Cienega Creek or Nogales Springs ACEC boundaries would be incorporated into the ACEC(s) and managed according to the prescriptions of this plan.Any State Trust and private lands acquired in the future within the Sonoita Valley APD boundary south of the Babocomari Land Grant would be incorporated into the Appleton-Whittell Research ACEC. and managed for research values according to the prescriptions of this plan.

The proposed management prescriptions for Cienega Creek and Nogales Springs ACECs apply to the riparian areas and floodplains of Cienega Creek and Nogales and Little Nogales Springs and are included in the ~~Activity Plan~~ **Management Actions** for Alternative 3. These actions include proposals common to Alternatives 2, 3, and 4 and the proposals specific to Alternative 3. Table 2-9 summarizes the use restrictions within Cienega Creek and Nogales Springs ACECs under Alternative 3 and compares the restrictions of Alternative 3's ACEC proposals to those under Alternatives 2 and 4. Appendix 2 includes full descriptions of the ACECs and their management prescriptions. The Phoenix RMP (BLM 1988) prescribed management for the existing Appleton-Whittell Research ACEC. Appendix 2 also includes these prescriptions **which are incorporated into this plan by reference**.

Map 2-15
Alternative 3- Arizona Trail Route

Map 2-16
Alternative 3-Special Designation Areas

Wild and Scenic Rivers
Continue to manage the Cienega Creek Wild and Scenic Rivers Study Area to protect the resources pending congressional action on designation.
(Common to All Alternatives)

Land Tenure

Public lands in Las Cienegas NCA would be retained and additional public lands or easements would be acquired within the Sonoita Valley Acquisition Planning District according to the prescriptions in the Las Cienegas RMP/EIS Acquisition Strategy (See Appendix 2). The Acquisition Strategy includes criteria for prioritizing acquisitions and identifies both traditional and non-traditional means of acquisition from the NCA Act and other legislation.

Public lands which become contiguous with the NCA due to acquisitions of intermixed lands become part of the NCA. Acquisitions within the Sonoita Valley Acquisition Planning District become part of the NCA upon acquisition. Any acquisitions of lands or easements inside the planning area (Empire-Cienega Long-Term Management Area), but outside the Sonoita Valley Acquisition Planning District would be completed according to objectives and management prescriptions in the Safford RMP Land Tenure Plan Amendment (summarized in the Management Guidance section of Appendix 2.) ***(Common to Alternatives 2, 3, and 4)***

Alternative 4--Land Use Plan Proposals

Emphasizing land use closures and restrictions and limits on development as the approach to achieving desired resource conditions, Alternative 4 is the most restrictive of the alternatives. It would provide for the following:

- Public lands would remain closed to mining and would be closed to livestock grazing.
- All public lands would be designated as an area of critical environmental concern.
- A single utility corridor would be designated for major utility lines.
- The Arizona Trail corridor would use the existing road system and require shared use of motorized and non-motorized travel.
- More roads would be closed or restricted than under any other alternative.
- Both mechanized and motorized vehicles would be restricted to designated routes.
- Recreation developments would be limited to the smallest area.
- More area would be designated as recreation Zone 3–open to dispersed recreation with fewer restrictions–than under any other alternative.

Desired Resource Conditions
Under Alternative 4, BLM would do the following to meet desired resource conditions:

Watershed: Upland, Riparian, and Aquatic Management
Apply management to meet and maintain the goals and objectives (desired future conditions) for upland vegetation, riparian vegetation, and aquatic habitats as described for Alternative 2.
(Common to Alternatives 2, 3, and 4)

Fish and Wildlife Management
Apply management to meet and maintain the goals and objectives (desired future conditions) for fish and wildlife and place management emphasis on the four rare habitats that support 18 priority species as described for Alternative 2.
(Common to Alternatives 2, 3, and 4)

Visual Resource Management
Designate 49,000 acres of public land as visual resource management (VRM) Class II (See Appendix 2-Visual Resource Management Class Objectives).
(Common to Alternatives 2, 3, and 4)

Cultural Resource Management
Under Alternative 4, management of cultural resources in the planning area would be the same as under Alternative 1.

Recreation Management
Manage to maintain three recreation opportunity settings on public lands as described for Alternative 2.
(Common to Alternatives 2, 3, and 4)

Land Use Allocations
Under Alternative 4, BLM would make the following land use allocations:

Fish and Wildlife Management
Manage suitable public land habitats for the recovery or reestablishing of native populations in collaboration with federal and state agencies, user groups, and other interested parties. Provide for reintroducing Gila topminnow into suitable habitats in accord with the existing BLM-AGFD Memorandum of Understanding. In addition, provide for reintroducing the following endangered, threatened, candidate, and priority species in accord with existing regulations, policies, and agreements:
(Common to Alternatives 2, 3, and 4)
- Gila chub
- Desert pupfish
- Southwestern willow flycatcher
- Aplomado falcon
- Native leopard frogs
- Black-tailed prairie dog
- Beaver
- Pronghorn
- Gould's turkey

Wildland Fire Management
BLM will suppress ~~all~~ natural or human-caused wildland fires by first addressing safety concerns to firefighters and the public and then addressing resource concerns. Because of the planning area's small size, and the proximity of an increasing number of homes in the wildland-urban interface, BLM ~~has determined that it~~ will ~~not~~ manage unplanned ignitions for the benefit of resources **only once public safety and property protection can be assured and in conformance with the RMP. Due to intermixed land ownership patterns, BLM will pursue development of and utilize a multi-agency fire management strategy in the planning area which will consider both ecological and administrative issues.**
(Common to All Alternatives).

Mineral Development
Under Alternative 4, the 48,542 acres of acquired public land and any future acquired public land would remain closed to locatable and leasable mineral exploration and development and mineral material sales (See Map 2-4). In addition, BLM would petition to withdraw the following from mineral location and leasing:

- 458 acres of public domain lands in the Empire Mountains.
- ~~4,474~~ **5,726.86** acres of federal mineral estate with private surface.
- 1,440 acres of federal mineral estate with state surface.

Utility Corridors
Designate one major utility corridor across public lands in the northeast part of the planning area (Map 2-17). This ~~1/8-mile-~~ **500-foot-**wide corridor for overhead utility lines already has two such lines. **No new lines can be placed west and south of Mattie Canyon. Any proposed new lines would need to be placed within this corridor and east of the existing lines.** Because of the configuration of the public land corridor

Map 2-17
Alternative 4-Utility Corridors

and presence of intermixed State Trust Lands, the utility would also need to obtain a right-of-way from the Arizona State Land Department.

Land Use Permits

BLM would continue to consider other land use authorizations on a case-by-case basis with stipulations to any permits or leases to ensure consistency with the plan's goals and objectives.

Off-Highway Vehicle Management

Limit both motorized and mechanized vehicles to designated roads and trails on the 49,000 acres of public land according to the designated transportation system (Map 2-18). ***(Common to All Alternatives)***

Under Alternative 4, BLM would make the following route designations on public lands **to implement the Off-Highway Vehicle designation of Limited to Designated Roads (Map 2-18):**

- ~~86.8~~ **83.9** miles open for public motorized travel.
- **0.4 miles of new road would be constructed as a bypass at the Empire Ranch Headquarters.**
- ~~1.1~~ **0.9** miles open seasonally for public motorized travel.
- ~~28.5~~ **30.2** miles designated for administrative use only.
- 0 miles converted to non-motorized trail for travel by mechanized vehicle, horse, or foot.
- ~~27.6~~ **25.5** miles closed and rehabilitated.

Roads designated as administrative use only may be opened temporarily for public use if needed to provide alternate access. This could occur if a route designated open for public use has to be closed temporarily for resource or public safety concerns.

In addition to the above miles of roads and trails, the designated transportation system will also include the *Heritage Discovery Trail* (a hardened interpretive trail at the Empire Ranch Headquarters, which is described under the Cultural Resource Management section of the Alternative 2 ~~Activity Plan~~ **Management Actions**) **(*Common to Alternatives 2, 3, and 4*)**

~~In addition, BLM will recommend to the Arizona State Land Department that similar designations be considered for the segments of these roads that cross intermixed State Trust Lands.~~ **For lands acquired in the future, road designations on intermixed non-BLM lands (shown on Map 2-18 as dashed lines) would be implemented for consistent management. Route designations on other surrounding lands in the Acquisition Planning District which may be acquired in the future by BLM, would be determined through a public process after acquisition.**

Legal public access has not been secured to many of the ~~86.8~~ **83.9** miles of public land roads, that Alternative 4 would designate as open. In the future, other landowners could close access on some roads or portions of roads. In addition, BLM might close roads or portions of roads seasonally, temporarily, or in emergencies where hazard or resource conditions warrant. To address resource or management concerns BLM might also build new road segments to replace existing roads. As described under the ~~Activity Plan~~ **Management Actions** for Alternative 2, BLM would pursue legal public access on fourroad segments crossing Arizona State Trust Lands. (*Common to Alternatives 2, 3, and 4*)

Map 2-18
Alternative 4- Route Designations -North Half
11x 17

BACK OF FOLDOUT

Alternative 4 - Route Designations _ South Half

Map 2-19
Recreation Management Zones

Recreation Management
Establish three recreation zones on public lands within the planning area (Map 2-19), and manage them to conform to the three recreation opportunity settings described in Table 2-7 (Desired Resource Conditions) and in accord with the desired recreation goals and objective ***(Common to Alternatives 2, 3, and 4).***

The ~~Activity Plan~~ **Management Actions** for Alternative 4 describe in more detail the recreation management within these zones. The size, location, and configuration of Zone 1 would be the same under Alternatives 2, 3, and 4.

- Zone 1 (Roaded Natural) would offer developed, concentrated activities for a wide range of visitor types. It would have easy access with visitor, interpretive, and educational facilities and would generally allow day use but no public camping. Motorized traffic would be directed to use designated parking, pullouts, and a loop drive. Recreation Zone 1 would consist of a half-mile-wide corridor along the entrance road (from Highway 83 to ranch headquarters). This zone would include ranch headquarters and Empire Gulch Spring and would encompass 1,109 acres of public land. ***(Common to Alternatives 2, 3, and 4)***

- Zone 2 (Natural) would offer moderate access with infrequently maintained roads, concentrated visitor use in designated areas (i.e., camping, parking, pullouts, and group sites) and limited visitor facilities and interpretation. Recreation Zone 2, a half-mile corridor along South Road, would consist of 2,161 acres of public land.

- Zone 3 (Back Country/Semi-Primitive) would offer a low concentration of visitors and a predominately natural environment, variable access that would likely be difficult, low to no visitor facilities, limited signs, and dispersed low-impact recreational opportunities. Under Alternative 4, Recreation Zone 3 would include the rest of the planning area's public lands--45,730 acres.

Arizona Trail
Designate a corridor for the Arizona Trail along eight miles of existing roads on public lands (Map 2-20). The trail would be shared use (motorized and non-motorized), and no new trail would need to be built. To have a continuous trail, the corridor would also have to cross 6.5 miles of existing road on intermingled State Trust Lands. For the trail to cross State Trust Land, a right-of-way must be obtained from the Arizona State Land Department.

Livestock Grazing Management
BLM would not allocate forage for livestock grazing on public lands within four existing allotments. Livestock grazing leases would be canceled on 41,855 acres currently leased for grazing (See Table 2-11)**and the removal of livestock would be phased in as grazing leases come up for renewal. The livestock grazing management actions for Alternative 4 describe in more detail how livestock removal would be implemented**.

Special Designation Areas
Under Alternative 4, BLM would make the following special designations:

Area of Critical Environmental Concern
Designate 45,859 acres of public lands as the Empire-Cienega ACEC (See Map 2-10). This ACEC would include all of the public lands within the planning area except the 3,141 acres of public lands now within the Appleton-Whittell ACEC (Research Ranch), which would remain a separate ACEC but be renamed the Appleton-Whittell Research ACEC. Appendix 2 includes full descriptions of the ACECs.

~~Any State Trust and private lands acquired in the future within ACEC boundaries would be incorporated into the ACEC(s) and managed according to the prescriptions of this plan~~

Map 2-20
Alternative 4- Arizona Trail Route

Table 2-11
Livestock Grazing Leases to Be Canceled Under Alternative 4
Las Cienegas Resource Management Plan

Allotment	Total Acres	Total Acres Grazed	BLM Acres	BLM Acres Grazed	ASLD Acres	Private Acres
Empire-Cienega (6090)	74,146	37,462	36,684	0	37,462	0
Empirita (6210)	24,988	23,468	1,520	0	23,468	0
Rose Tree (6043)	8,869	4,919	3,950	0	3,719	1,200
Vera Earl (6129)	1,440	0	1,440	0	0	N/A
TOTAL:	**109,443**	**65,849**	**41,855**	**0**	**64,649**	**1,200**

Any State Trust and private lands acquired in the future within the planning area ~~ACEC~~ boundaries north of the Babocomari Land Grant would be incorporated into the Empire-Cienega ACEC and managed according to the prescriptions of this plan.

Any State Trust and private lands acquired in the future within the Sonoita Valley APD boundary south of the Babocomari Land Grant would be incorporated into the Appleton-Whittell Research ACEC. and managed for research values according to the prescriptions of this plan.

~~The Activity Plan for~~ The Alternative 4 plan, including desired conditions, land use allocations, special designations, land tenure decisions and management actions, is the proposed management plan for the Empire-Cienega ACEC, including management actions common to Alternatives 2, 3, and 4 and actions specific to Alternative 4.

Wild and Scenic Rivers
Continue to manage the Cienega Creek Wild and Scenic Rivers Study Area to protect the resources pending congressional action on designation.
(Common to All Alternatives)

Land Tenure

Public lands in Las Cienegas NCA to be retained and additional public lands or easements to be acquired within the Sonoita Valley Acquisition Planning District according to the prescriptions in the Las Cienegas RMP/EIS Acquisition Strategy (See Appendix 2). The Acquisition Strategy includes criteria for prioritizing acquisitions and identifies both traditional and non-traditional means of acquisition from the NCA Act and other legislation.

Public lands which become contiguous with the NCA due to acquisitions of intermixed lands become part of the NCA. Acquisitions within the Sonoita Valley Acquisition Planning District become part of the NCA upon acquisition.

Any acquisitions of lands or easements inside the planning area (Empire-Cienega Long-Term Management Area), but outside the Sonoita

Valley Acquisition Planning District, would be completed according to objectives and management prescriptions in the Safford RMP Land Tenure Plan Amendment.(summarized in the Management Guidance section of Appendix 2.) ***(Common to Alternatives 2, 3, and 4)***

PART B--~~ACTIVITY PLAN ALTERNATIVES~~ MANAGEMENT ACTIONS

This section includes the four ~~interdisciplinary activity plans~~ sets of management actions that would be implemented under each of the land use plan alternatives. The ~~Activity Plan~~ Management Actions for Alternative 1 ~~is~~ are limited to the existing interim grazing plan and project-by-project considerations for other resource programs, including cultural resources, wildlife, and recreation. The ~~activity plans~~ Management Actions for Alternatives 2, 3, and 4 ~~have in common~~ include a common series of actions to meet the desired resource conditions for upland and riparian vegetation, wildlife habitats, and cultural and visual resources. The ~~activity plans~~ Management Actions for Alternatives 2, 3, and 4 vary mainly by the proposals for implementing livestock grazing decisions and recreation management. The first part of the ~~Activity Plan~~ Management Actions sections for Alternative 2 describes and includes the ~~proposals~~ Management Actions common to Alternatives 2, 3, and 4. The ~~activity plans~~ Management Actions sections for Alternatives 3 and 4 refer the reader to Alternative 2 for the text of ~~proposals~~ Management Actions common to the three alternatives.

Alternative 1--~~Activity Plan~~ Management Actions

The following actions, which describe ongoing management in the Empire-Cienega Planning Area, constitutes the ~~Activity Plan~~ Management Actions for Alternative 1 (Current Management). If Alternative 1 is selected, the assumption is that the following management approaches and level of management would continue.

Watershed: Upland, Riparian, and Aquatic Management Actions

Under Alternative 1, BLM would carry out the following actions in managing and restoring watersheds:

. Consider vegetation treatments on a case-by-case basis to address specific resource issues. An integrated vegetation treatment program would not be developed.

. Issue free use permits on a case-by-case basis for collecting plant materials for noncommercial use.

. Control livestock use of riparian areas by building riparian fencing.

. Repair eroding streambanks and other disturbed areas as significant problems are detected.

. Include stipulations for group activity permits to reduce impacts to riparian areas, including limiting creek crossings to dry or designated crossing areas.

Fish and Wildlife Management Actions

Under Alternative 1, BLM would continue to carry out the following actions in managing fish and wildlife:

. Use the Section 7 consultation process with the U.S. Fish and Wildlife Service to ensure that actions undertaken do not jeopardize the existence of endangered or threatened species or species proposed for listing. **(*Common to All Alternatives*)**

. Continue to implement the terms and conditions in existing biological opinions,

including the following (See Appendix 2 for more detail):

a. Ensure that livestock grazing on BLM-administered lands adheres to the BLM's Arizona Standards and Guidelines, Upland Livestock Utilization Standard, Safford Drought Policy, Arizona Ephemeral policy, and Riparian Area Policy.

b. Work with other landowners to achieve a long-term upward trend in areas with fair or poor range condition.

c. Work with the Natural Resource Conservation Service and landowners in the allotments to develop and implement watershed improvement projects that will increase infiltration.

d. Continue to implement the following measures to protect lesser long-nosed bat roosts and foraging habitat from grazing impacts:
Ensure that road building and maintenance activities do not increase or facilitate public access to known day roosts of lesser long-nosed bats.

- Conduct pre-construction surveys for paniculate agaves to avoid or minimize their injury and mortality during construction.

- Design vegetation treatments, including prescribed fire, to minimize harm to paniculate agave and to ensure that no more than 20% of agaves that are burned during prescribed fire are killed by the fire.

- Develop a mitigation plan in coordination with the Fish and Wildlife Service for any vegetation treatment, including prescribed fire within 0.5 mi of a bat roost or in areas that support paniculate agaves.

. Continue to implement the following measures to protect jaguar and jaguar habitat from grazing impacts.

- Maintain dense, low vegetation in the Cienega Creek riparian corridor for jaguar.

- Do not subject jaguar to any predator control activities.

- Investigate all reports of observations of jaguars in coordination with the Fish and Wildlife Service and the Arizona Game and Fish Department.

. Continue to implement the following measures to protect populations of topminnow and topminnow habitat from grazing impacts:

- Exclude riparian areas from grazing.

- Rotate use of crossing lanes and move cattle through them within 10 days.

- Continue developing adjacent upland waters and phasing out water gaps.

- Inspect and maintain riparian exclosure fences at least twice annually.

- Locate all new repressos (i.e., earthen stock ponds) to minimize the likelihood of floods or humans moving exotic fish and bullfrogs into topminnow habitat.

- Use repressos only when required to water cattle and allow repressos to dry when no longer needed to water cattle. Drain repressos if they do not dry within six months after their use ends. **The BLM would be responsible for any**

required draining of repressos not related to the livestock operation.

- Monitor the fish community and habitat, including crossing lanes, grazed riparian zones, and repressos to document the level of incidental take and to check for introduction of exotic fish and bullfrogs.

- Ensure that any changes in livestock management do not increase cattle use at Nogales and Little Nogales Springs or along Cienega Creek.

- Develop mitigation plans in coordination with the Fish and Wildlife Service for range improvements and vegetation treatments which may harm the topminnow or its habitat.

. Continue to implement the following measures to protect the Southwestern willow flycatcher and its habitat from grazing impacts:

- Exclude livestock grazing from occupied or unsurveyed, suitable habitat during the Southwestern willow flycatcher breeding season (Apr 1-Sept.1).

- Manage suitable willow flycatcher habitat so that its suitable characteristics are not eliminated or degraded.

- Manage potential willow flycatcher habitat to allow natural regeneration into suitable habitat as rapidly as possible.

- Control cowbirds within five miles of occupied habitat using suitable control methods, if cowbird concentrations indicate a strong likelihood that parasitism to flycatcher nests is occurring or if parasitism of a nest is documented.

- Do not authorize livestock management activities, including development of range improvements in the riparian zone of unsurveyed, suitable, or occupied willow flycatcher habitat during the willow flycatcher breeding season.

  Locate any new livestock management facilities that are likely to attract and support cowbirds more than five miles from occupied, suitable, or potential flycatcher habitat, unless such facilities are crucial to protecting of the riparian habitat and cowbird trapping is implemented to counteract the effect of the facility.

. Cooperate with state and federal agencies, universities, conservation groups, and other organizations on proposals, including fish and wildlife research, fish and wildlife habitat improvement projects, inventory and monitoring of species and habitats, and mitigation of impacts from other activities. **(*Common to All Alternatives*)**

  Some wildlife actions under current management have included the following:

  . Modifying and removing fences for pronghorn in selected areas.

  . Providing permanent water for wildlife at livestock developments.

  . Studying grassland sparrows, grasshoppers, native fish, and vegetation.

. Accomplish some proposed actions from the Gila Topminnow Recovery Plan as BLM obtains the resources. Actions under current management have included the following:

- Partial inventory of stock tanks for exotic fishes and amphibians in portions of the Cienega Creek watershed.

- Closing some road crossings on perennial portions of Cienega Creek.

- Preliminary evaluation of sites for reintroduction areas.

Cultural Resource Management Actions

Management under Alternative 1 would allow cultural resources in the planning area to be conserved for future values or used for scientific, public, or socio-cultural purposes through the following actions:

Empire Ranch Headquarters

1. Allocate the historically significant buildings at the Empire Ranch Headquarters to public use. ***(Common to All Alternatives)***

2. Produce a cultural resource project plan (CRPP) in the form of a "master plan" for the Empire Ranch Headquarters. Under Alternative 1, the Empire Ranch House would be stabilized, but not restored. Public and educational programs would continue to consist of tours, presentations, occasional open houses, and special events. Learn-and-serve or other training programs would continue. Facilities would be signed for self-guided tours and visitor facilities would be upgraded.

3. Evaluate and submit materials nominating the complex of historic buildings (built or placed before 1950) at the Empire Ranch Headquarters to the National Register of Historic Places by 2003. (The Empire Ranch House is listed on the National Register). ***(Common to All Alternatives)***

4. At the Empire Ranch Headquarters continue to conduct basic stabilization/preservation work on historic buildings that are listed or eligible for listing on the National Register of Historic Places. Grant, partnership, volunteer, and other sources of funding and labor would be used to fund the preservation program. ***(Common to All Alternatives)***

5. Stabilize and maintain all eligible or listed historic structures in accord with the Secretary of the Interior's *Standards and Guidelines for the Treatment of Historic Properties* and *Standards and Guidelines for Rehabilitating Historic Buildings on the National Register*. ***(Common to All Alternatives)***

6. Manage and maintain at BLM standards for safety, accessibility, and occupancy buildings and structures within the complex that are not eligible for listing on the National Register of Historic Places, including recreational facilities, storage buildings, sheds, shops, and occupied structures. ***(Common to All Alternatives)***

7. Continue partnership with the Empire Ranch Foundation and other interested groups in the following:

   a. Planning uses of the headquarters complex.

   b. Stabilizing/preserving structures at the headquarters.

   c. Collecting, preserving, and interpreting historic information and materials about the Empire Ranch and the surrounding area.

   d. Volunteer projects.

   e. Educational programs. ***(Common to All Alternatives)***

8. Actively maintain and provide opportunities for the public to volunteer for projects to

preserve, conserve, and study the planning area's cultural resources. ***(Common to All Alternatives)***

9. Manage the ranch headquarters to include support of historic ranching operations, administration of BLM programs, and protection in the planning area, and public uses emphasizing education, research, interpretation, and visitation.

10. Continue producing limited interpretive materials (i.e., brochures, website information, news/features) about Empire Ranch history.

Cultural Properties Outside the Headquarters Area

1. Open selected sites outside the headquarters to scientific and historical study by qualified researchers and scholars. (See Appendix 2 for detailed description of this action).

2. Conduct Class III cultural resource surveys of ~~116.4~~ 113.2 miles of roads and trails leading through the planning area by 2004 (dependent on adequate funding). Data from these surveys would be used to make future allocation and use decisions.

3. Conduct Class III cultural resource surveys of about 40,000 acres by 2005 (dependent on adequate funding). Data from these surveys would be used to make future allocation and use decisions.

4. Conduct an ethnoecological study of the planning area, complete with report, by 200~~3~~*4* (dependent on adequate funding). ***(Common to All Alternatives)***

5. Work with Native Americans, including the Tohono O'odham Nation, the Hopi Tribe and the San Carlos Apache Tribe to select harvesting areas and allow noncommercial collection of bear grass, cottonwood, acorns and medicinal/ceremonial herbs by ~~2001~~ 2003. ***(Common to All Alternatives)***

Access and Transportation Management Actions

Under Alternative 1, BLM would carry out the following actions in managing access and transportation:

1. Continue to use BLM-produced information and interpretive materials to describe access to the Empire-Cienega Planning Area at the Highway 82 and 83 access points.

2. Continue partial implementation of a designated road system for the planning area, including partial road numbering, access guide (map), and closing of new wildcat roads, but not complete a comprehensive road system with determinations on open, closed, and restricted roads and road segments.

Recreation Management Actions

Under Alternative 1, BLM would carry out the following actions in managing outdoor recreation:

1. Issue special recreation use permits on a case-by-case basis according to BLM policies and in compliance with the National Environmental Policy Act.

. Inform planning area visitors (i.e., persons and groups) that they must obtain recreation permits from the Arizona State Land Department, if they are to engage in any activities on State Trust Lands other than hunting with a valid hunting license. Although BLM states this ASLD requirement in its publications, including the Empire-Cienega Access Guide, many visitors are not aware of the mixed land ownership and that State Trust Lands are not public lands.

. Only infrequently maintain roads, as needed, and as resources are available.

BLM would not develop a recreation management program, including interpretation and maintenance.

Administrative Sites Management Actions

Designate the Empire Ranch Headquarters (about 80 acres), Hummel Ranch buildings (about 10 acres), Cienega Ranch buildings (about 5 acres), and High Lonesome buildings (about 10 acres) as administrative sites (Map 2-21). Buildings at these sites may be used for a variety of purposes including housing, office space, visitor contact, and ranch management. Within the administrative site boundaries, the areas will be closed to discharge of firearms, camping, and other public uses not provided for in conjunction with the administrative use. ***(Common to All Alternatives)***

Mineral Resources Management Actions

Alternative 1 would establish no management guidelines for rock collecting or the administrative or casual use of mineral materials.

Livestock Grazing Management Actions

Under current livestock grazing management in the planning area (Alternative 1), four livestock operators continue to lease public lands on four individual grazing allotments (i.e., Empire-Cienega, Empirita, Rose Tree, and Vera Earl) (See Table 2-12). Livestock graze a total of 107,704 acres within the four allotments. This total includes 41,855 acres of public lands that are currently authorized for livestock grazing, 64,649 acres of State Trust Lands, and 1,200 acres of private lands. The maximum stocking rate on the four allotments is 2,064 cattle on a year-long basis, according to the existing grazing leases for BLM, State Trust, and private lands. The current authorized use on public lands of 832 cattle on a year-long basis equates to 9,984 animal unit months (AUMs) of forage or 12.6 cows/section. The authorized public land use is 40% of the total livestock that could currently be run on the total acreage within the four allotments, regardless of land ownership.

If the four allotments were stocked at the authorized maximum stocking rate of 2,064 cattle every year (which is *technically* allowed under current management), then the percentage of ~~available~~ useable forage consumed would approximate 44% in favorable years, 66% in normal years, and 100% in unfavorable years (See Table 2-13). In reality, the public lands in these allotments have never been stocked at the authorized maximum stocking rate. The operators have voluntarily varied the stocking rates on the four allotments because of factors described below in the grazing management descriptions for each allotment.

Under Alternative 1, the biological planning process has been used for several years on the Empire-Cienega allotment to assist with determining appropriate stocking rates and adjusting pasture rotations in response to resource conditions and management concerns. Table 2-14 shows the total vegetation production in favorable, normal, and unfavorable years (based on rainfall) on all lands within the Empire-Cienega allotment. Also shown is the average amount of forage that livestock could consume on this allotment

Map 2-21
Administrative Sites

Table 2-12
Current Authorized Grazing Use, Las Cienegas Resource Management Plan

Allotment	Total Acres	Total Acres Grazed	Total Cows	BLM Acres Grazed	Cows on BLM ~~Cows~~ (CYL[1])	BLM Aums	BLM Acres not Grazed	ASLD Acres	Cows on ASLD ~~Cows~~	Private Acres	Cows on Private ~~Cows~~
Empire	74,146	73,487	1,500	36,025	704	8,488	659	37,462	796	0	0
Empirita	24,988	23,908	337	440	9	108	1,080	23,468	328	0	0
Rose Tree	8,869	8,869	200	3,950	92	1,104	0	3,719	24	1,200	84
Vera Earl	1,440	1,440	27	1,440	27	324	0	0	0	N/A	N/A
Empire Mountains	3,524	0	0	0	0	0	2,480	0	0	1,044 (Not Grazed)	0
TOTAL:	**115,923**	**107,704**	**2,064**	**41,855**	**832**	**9984**	**4,219**	**64,649**	**1,148**	**2,244** (1,200 Grazed)	**0**

[1] CYL = Cattle year-long

under variable stocking rates. The ~~available~~ useable forage is assumed to be 50% of the total vegetation produced multiplied by the current 50% utilization rate on those lands allocated for livestock grazing. In contrast to the hypothetical example in Table 2-13, the percentage of ~~available~~ useable forage consumed remains fairly constant (between 41.5 and 45.5 %) under this management strategy.

Highlights of Current Grazing Management

- On the four allotments grazing management strategies continue to incorporate various rotational philosophies.

- Livestock grazing on the Empire-Cienega allotment continues to be managed under the interim grazing plan (BLM 1995), which Appendix 2 summarizes in more detail. Livestock grazing on the Empirita Allotment would continue to be managed under the current coordinated grazing management plan (NRCS 1994). No management plan or monitoring is in place on either the Rose Tree or Vera Earl allotments.

- Only one of the current operations (Empire-Cienega) has begun a biological planning process to help guide management and resolve conflicts in proposed management. All allotments implement the current utilization limit. This limit restricts average utilization to 40-60% of current year's growth on key perennial grass species. This limit also assures that the physiological requirements of plant growth, rest, and reproduction are met for the following key species:

- *Perennial Grasses*:
  Plains Lovegrass (ERIN)
  Sideoats Grama (BOCU)
  Cane Beardgrass (BOBA3)
  Vine Mesquite (PAOB)
  Black Grama (BOER4)
  Blue Grama (BOGR)
  Hairy Grama (BOHI2)
  Sprucetop Grama (BOCH)
  Plains Bristlegrass (SE~~LL2~~MA)
  Wooly Bunchgrass (ELBA)
  Green Sprangletop (LEDU)
  Arizona Cottontop (DICA8)
  Crinkleawn (TRSP12)
  Bush Muhly (MUPO2)
  Prairie Junegrass (KOCR)

Shrubs and Succulents:
False Mesquite (CAER)
Range Ratany (KRPA)
Shrubby Buckwheat (ERWR)
Palmer's Agave (AGPA)

Empire-Cienega Allotment (#6090)
BLM leases the federal lands in the Empire-Cienega allotment to John and Mac Donaldson for livestock grazing. This lease expires December, 31 ~~2002~~ 2007 BLM also subleases the State of Arizona livestock grazing leases (05-1597 and 05-1623) to the Donaldsons.

Summary of RMP~~-Level~~ Proposal
Continue to allocate 8,448 AUMs of forage on approximately 36,025 acres of the 36,684 acres of public land in the Empire-Cienega allotment for livestock grazing. Continue to exclude 659 acres from the regular livestock rotation.

Table 2-13
Vegetation Production and Livestock Forage Consumption Under Three Rainfall Regimes on Four Allotments, Assuming Livestock Held at Maximum Stocking Rates
Las Cienegas Resource Management Plan

	Total Acres Grazed	Total Cows	Total Production Grazed Acres[1] (Million-lbs.)	Production Consumed by Total Cows (Million-lbs.)	% Total Production Consumed	~~Available~~ Useable[2] Forage (Million-lbs.)	% ~~Available~~ Useable Forage Consumed
Favorable[3] Year	107,704	2,064	179.52	19.81	11	44.88	44
Normal Year	107,704	2,064	119.68	19.81	16	29.92	66
Unfavorable Year	107,704	2,064	78.99	19.81	24	19.75	100

[1] Total vegetation production comes from the NRCS Ecological Site guides for "favorable, normal, and unfavorable" years and is provided in the site guides only for reference areas considered to have an excellent similarity correlation to the "Historic Climax Plant Community" for each ecological site. Production encompasses all forms of vegetation production, including trees and shrubs so cattle never use a certain amount of production. But production still provides a relative index of cover produced.

[2]Useable forage is that portion of the production (less 50% of production reserved for watershed and range health) that is accessible to livestock and that can be grazed without damage to the health of the plant and may be allocated for livestock use.
Total Useable Forage = Total Production less 50% reserved for watershed and wildlife multiplied by the utilization limit of 50%.
Note that livestock consumption remains constant although the amount of useable forage is dropping.

[3] The "favorable, normal, and unfavorable" years are mainly a reflection of rainfall. This variable is used to show that production varies greatly in response to the amount and timing of precipitation, and how different livestock stocking rates affect the amount of vegetation cover remaining to achieve the watershed and wildlife objectives in the plan. In a Favorable Year, the assumed average production is 1800 lbs/ac and 0 .25 AUM/ac on the Empire, Rose Tree, and Vera Earl ranches on the basis of NRCS Ecological Site Guides, and 1200 lbs/ac and 0.18 AUM/ac on the Empirita and Empire Mountain grazing units. In a Normal Year, the assumed average production is 1200 lbs/ac and 0.15 AUM/ac on the Empire, Rose Tree, and Vera Earl allotments based on NRCS Ecological Site Guides, and 800 lbs/ac and 0.12 AUM/ac on the Empirita and Empire Mountain grazing units. In an Unfavorable Year, the assumed average production is 800 lbs/ac and 0 .10 AUM/ac on the Empire, Rose Tree, and Vera Earl ranches on the basis of NRCS Ecological Site Guides, and 500 lbs/ac and 0.09 AUM/ac on the Empirita and Empire Mountain grazing units.

Table 2-14
Vegetation Production and Livestock Forage Consumption Under Three Rainfall Regimes (With Livestock Numbers Varied) on the Empire-Cienega Allotment Las Cienegas Resource Management Plan

	Total Acres Grazed	Total Cows	Total Production Grazed Acres[1] (Million-lbs.)	Production Consumed by Total Cows (Million-lbs.)	% Total Production Consumed	~~Available~~ Useable Forage (Million-lbs.)	% ~~Available~~ Useable Forage Consumed
Favorable Year[2]	73,487	1,436	132.3	13.8	10.4	33.1	41.7
Normal Year	73,487	1,037	88.2	10.0	11.3	22.1	45.3
Unfavorable Year	73,487	662	58.8	6.4	10.9	14.7	43.5

[1] Total vegetation production comes from the NRCS Ecological Site guides for "favorable, normal, and unfavorable" years and is provided in the site guides only for reference areas considered to have an excellent similarity correlation to the "Historic Climax Plant Community" for each ecological site. Production encompasses all forms of vegetation production, including trees and shrubs so cattle never use a certain amount of production. But production still provides a relative index of cover produced.
Note: With variable stocking, a large portion of the useable forage base is held in reserve for unexpected changes (e.g., wildfire, pronghorn or sparrow cover, etc.)

[2] The"favorable, normal, and unfavorable" years are mainly a reflection of rainfall. This variable is used to show that production varies greatly in response to the amount and timing of precipitation and how different livestock stocking rates affect the amount of vegetation cover remaining to achieve the watershed and wildlife objectives in the plan. In a Favorable Year, the assumed average production is 1800 lbs/ac and 0 .25 AUM/ac on the Empire, Rose Tree, and Vera Earl ranches on the basis of NRCS Ecological Site Guides, and 1200 lbs/ac and 0.18 AUM/ac on the Empirita and Empire Mountain grazing units. In a Normal Year, the assumed average production is 1200 lbs/ac and 0.15 AUM/ac on the Empire, Rose Tree, and Vera Earl allotments based on NRCS Ecological Site Guides, and 800 lbs/ac and 0.12 AUM/ac on the Empirita and Empire Mountain grazing units. In an Unfavorable Year, the assumed average production is 800 lbs/ac and 0 .10 AUM/ac on the Empire, Rose Tree, and Vera Earl ranches on the basis of NRCS Ecological Site Guides, and 500 lbs/ac and 0.09 AUM/ac on the Empirita and Empire Mountain grazing units.

Summary of Current Empire-Cienega Grazing Management (See Appendix 2)

1. **Continue** current management **which** is a variable stocking rate with flexible livestock rotation-selective rest-rotation strategy (currently done voluntarily).

2. **Continue** the current authorized stocking rate **which** is 1,500 animal units on a year-long basis. But the lessee has chosen not to stock at the full capacity and has adjusted stocking rates whenever the resource showed the need. The average number of cattle run on the allotment since 1993 has been 1,037 cattle year-long (CYL) with a high of 1,436 and a low of 662.

3. **Continue the biological planning process.** To address management concerns, the lessees have developed and are using a biological planning process to assess and adjust proposed rotations. The composition and function of the current grazing plan and the biological planning process on the Empire-Cienega allotment are described in more detail in the Interim Grazing Management Plan for the Empire-Cienega Allotment (See Appendix 2). The input from the Biological Planning Team helps ~~rapidly~~ **more frequently** adjust grazing in response to the health of the resource and the availability of forage.

. BLM and the Arizona State Land Department **continue to** adjust stocking rates in response to established carrying capacities, results of vegetation monitoring studies, and applications for voluntary non-use.

. BLM completed an ecological site inventory for the Empire-Cienega allotment in 1995.

. **Continue to manage livestock grazing under the Empire-Cienega interim grazing plan.** BLM prepared an interim livestock grazing management plan for the Empire-Cienega allotment in 1995 (BLM 1995) to guide the management of livestock grazing in the Empire-Cienega Resource Conservation Area pending this amendment to the Phoenix Resource Management Plan. The interim plan (Appendix 2) did or does the following:

  . Prescribes how the livestock grazing operation will be run to sustain the resources.
  . Established permanent vegetation monitoring sites.
  . Determines what range improvements are needed.

7. Under the interim plan, BLM will **continue to** authorize grazing use in the riparian pastures and exclosures only at watering points or crossing lanes or in limited circumstances to achieve a resource objective, such as fuels reduction.

. BLM completed a biological evaluation of the interim grazing plan, consulted with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act, and received a biological opinion from the Service (No. 2-21-95-F-177). BLM ~~is now~~ **will continue** implementing the actions in the biological opinion (Appendix 2).

. **Continue the current utilization limit**. The current utilization limit restricts average utilization to 40-60% of the current year's growth on key perennial grass species as described for Alternative 1 summary.

. **Continue to develop the range improvements proposed in the Empire-Cienega interim grazing plan**. Existing and proposed range improvements under the current interim grazing plan for the Empire-Cienega allotment are shown on Map 2-22 **and in Tables 2-14A, 2-14B, and 2-14C**.

Table 2-15 compares the current grazing management strategy for the Empire-Cienega Allotment to the alternative allotment management strategies.

Empirita Allotment (#6210)

BLM leases a portion of the federal lands (440 acres) in the Empirita allotment to the Parsons Company for livestock grazing. BLM also subleases the State of Arizona livestock grazing lease (05-437) to the Parsons Company. In addition, 1,080 acres of federal lands, 550 acres of Pima County lands, and 320 acres of private lands within the allotment are neither owned or leased by the Parsons Company.

Summary of RMP ~~Level~~ Proposal

Continue to allocate **108 AUMS of forage on approximately** 440 acres of the 1,520 acres of public land in the Empirita allotment for livestock grazing. The remaining 1,080 acres are not allocated for forage, but are not physically excluded from livestock grazing by fencing.

Map 2-22

Range Improvements

Table 2-14A
Riparian Crossing Lanes on Cienega Creek Under Current Management (Alternative 1)
Empire-Cienega Interim Grazing Plan

Lane	Pasture	TWP	RNG	Section
New Road Crossing	North/Mac's Sacaton	18 S	17 E	34
New Jesse Lane	North/Lower 49/ Mac's Sacaton	18 S	17 E	26
New Fresno Gap Lane	Lower 49/ Rockhouse/Lower Mattie Sacaton	18 S	17	23
New Dominguez Lane	Rockhouse/Fresno	18 S	17	13
Narrows Lane	Rockhouse/Apache	18 S	18	7
Lower 49 Gaps (Existing)	Lower 49/Mac's Sacaton	18 S	17 E	2

Table 2-14B
Summary of Proposed Fencing, Empire-Cienega Interim Grazing Plan

Project Name	Pasture	Township	Range	Section
Spring Water Sacaton Fence	E 500 Acre & 5 Wire & Mac's	19 S 18 S	17 E 17 E	2, 11 34, 35
Lower 49 Sacaton Fence	Lower 49/500 Acre & 5 Wire	18 S	17 E	26 NW, 27 NE
Lower Mattie Sacaton Fence	L. Mattie/Fresno	18 S	17 E	13, 23, 24, 25, 26
Rockhouse Riparian Fence	Rockhouse/Apache	18 S 18 S	18 E 17 E	6, 7. 12, 13
Narrows Riparian Fence	Empirita	18 S	18 E	6

Table 2-14C
Empire-Cienega Ranch Water Developments, Empire-Cienega Interim Grazing Plan

Project Name	Township	Range	Section	Units
Lower 49 Well Drill Equipment, Tank, and Fence	18 S	17 E	27, 23, 26, 27	1 Well and Tank 1.5 mi. Fence
Enzenburg North Well and/or Sam's Well Project	18 S	17 E	34 NW	1
Mud Springs Well Drill, Equipment, and Tank	19 S	18 E	29 NE	1 Each
Upper 49 Well Redrill, Equipment and Tank, or Reservoir Construction	18 S	17 E	26 NW	1 Each
Upper Road Canyon Well Drill, Equipment, Tank and Fence	19 S	17 E	16 NE 26, 27, 35, 36	1 Well 2 Tanks 3 mi. Fence
Upper Apache Div. Fence	18 S	18 E	22, 27, 34	3 mi. Fence
Test Hole Wing Fence	18 S	18 E	28, 33	1 mi. Fence
Hilton Pasture Fence	Not Determined			
Road Canyon Div. Fence	Not Determined			

Summary of the Current Empirita Grazing Management

1. **Continue the current grazing strategy**. The current grazing strategy is a deferred rotation grazing system with set stocking rates.

2. **Continue to develop proposed range improvements in current grazing plan**. The Parsons are working with BLM, the Natural Resources Conservation Service (NRCS), and the Arizona State Land Department (ASLD) to develop range improvements to implement the grazing strategy.

3. **Continue current authorized use**. The current authorized use is 337 CYLs at 3% public land use = 121 AUMs. The Parsons Company has been taking partial non-use since it leased the allotment, while range improvements are being built to implement proper grazing management.

4. The grazing lessee **will continue to** work with the NRCS, BLM, and the ASLD to determine pasture rotation and yearly adjustments in livestock numbers. No biological planning process is in place.

5. BLM and ASLD **will continue to** determine adjustments in the established stocking rates in response to vegetation monitoring studies and voluntary non-use.

6. BLM and NRCS completed an ecological site inventory of the rangelands on the Empirita allotment in 1994.

7. **Continue to manage livestock grazing according to the existing Empirita grazing management plan**. The Parsons Company Inc., NRCS, ASLD, and BLM cooperatively developed a grazing management plan for the Empirita allotment in 1994. The plan: (1) prescribed how the livestock grazing operation would be run to sustain the resources, (2) established permanent

vegetation monitoring sites, and (3) determined needed range improvements. No study exclosures **are proposed** ~~exist~~.

. **Continue** current grazing management **which** restricts average utilization to 40-60% of the current year's growth on key perennial grasses, as described in the Alternative 1 summary.

. **Continue to develop range improvements proposed in the grazing plan**. Existing and proposed range improvements under the current Empirita grazing plan are shown on Map 2-22.

Table 2-16 compares the current grazing management strategy for the Empirita allotment to the alternative allotment management strategies.

Rose Tree Allotment (#6043)
BLM leases the federal lands (3,950 acres) in the Rose Tree allotment to Rose Tree LLC for livestock grazing.

Summary of RMP-~~Level~~ Proposal
Continue to allocate **1,104 AUMs of forage on about** 3,950 acres of public land in the Rose Tree allotment for livestock grazing.

Summary of Current Rose Tree Grazing Management
. **Continue** the current grazing strategy **which** is a deferred rotation grazing system with set stocking rates.

. **Continue** the current stocking rate (authorized use) **which** is 200 CYL at 46% public land use = 11,104 AUMs.

. The lessee **will continue to** decide on pasture rotation and yearly adjustments in livestock numbers. No biological planning process is in place.

. BLM and ASLD **would continue to** determine adjustments in established stocking rates from vegetation monitoring studies and voluntary non-use. These public lands are not currently being monitored.An ecological site inventory of the rangelands has not been completed.

. A grazing management plan has not been completed.

. No study exclosures exist.

. **Continue** current grazing management **which** restricts average utilization to 40-60% of current year's growth on key perennial grass species, as described in the Alternative 1 summary.

Table 2-17 compares the current grazing management strategy for the Rose Tree Allotment to the alternative allotment management strategies.

Vera Earl Allotment (#6129)
BLM leases the federal lands (1,440 acres) in the Vera Earl allotment to the estate of Bettie A. Beck for livestock grazing.

Summary of RMP-~~Level~~ Proposal
Continue to allocate all **324 AUMs of forage on about** 1,440 acres of public land in the Vera Earl allotment for livestock grazing.

Summary of Current Vera Earl Grazing Management
. **Continue** the current grazing strategy **which** is a deferred rotation grazing system with set stocking rates.

Table 2-15. Current and Proposed Livestock Grazing Management on the Empire-Cienega Allotment

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Forage (RMP Allocation)	8,448 AUMs of forage allocated or 709 cows year long (CYL) on public lands	8,448 AUMs of forage allocated or 709 cows year long (CYL) on public lands	4,680 AUMs of forage allocated or 390 cows year long (CYL) on public lands	No forage allocated on public lands
Acres ~~(RMP Allocation)~~	Public land acres: 36, 684 Grazed acres[1]: 36,025 Acres in exclosures: 659[2]	Public land acres: 36, 684 Grazed acres: 34,365 Acres in exclosures: 2,319	Public land acres: 36, 684 Grazed acres: 36,025 Acres in exclosures: 659	All 36,684 public land acres excluded from livestock grazing
Livestock Numbers	1500 cattle year-long (CYL) on allotment (49% BLM) = 709 CYL on public lands	Up to 1500 CYL on allotment (49% BLM) = 709 CYL on public lands with numbers set annually in response to resource monitoring and evaluation through biological planning[3]	796 CYL on allotment (49% BLM)[4] = 390 CYL on public lands	0 on BLM lands; 796 CYL on State Trust lands within allotment[5]
Stocking Rate	Variable stocking rate (average in past years has been 1,037 CYLs, range of 662-1436)	Variable stocking rate	Fixed stocking rate	Set stocking rate on State Trust Lands
Pasture Rotation	Flexible livestock rotation (selective rest rotation)	Flexible livestock rotation	Scheduled deferred/rest rotation on a seasonal basis	Unknown
Monitoring Process	Decisions based on review of Biological Planning Team recommendations by BLM field manager	Decisions based on monitoring of resource conditions and objectives and review of Biological Planning Team recommendations by BLM field manager	Decisions based on livestock numbers, set rotations, and BLM/ASLD/NRCS monitoring. No Biological Planning Team	Decisions by Arizona State Land Department (ASLD)
Proposed Improvements	Build and maintain 12 range improvement projects to include: • 20.5 miles fence • 3 new wells with 3 tanks • 3 redeveloped wells (Map 2-22)	Same as Alternative 1 with more study exclosures	Same as Alternative 1 without more exclosures	Build 85 miles of fence to exclude cattle from BLM lands

ASLD = Arizona State Land Department; NRCS = Natural Resources Conservation Service

[1] The numbers of acres available for grazing will vary over time with the numbers of acres in exclosures.

[2] The exact number of excluded acres may vary depending on the number, size, and location of study exclosures which will be developed to help evaluate the effectiveness of grazing management.

[3] The actual number of livestock would vary annually due to the flexible stocking in association with the Biological Planning Process described in the Livestock Management Actions for Alternative 2.

[4] BLM does not manage the State lease. Although we suggest stocking under this alternative to be 409 CYL, it would remain at 796 CYL on State Lease.

[5] It is unknown whether the State Lease would continue to be grazed under Alternative 4.

Table 2-16. Current and Proposed Livestock Grazing Management for the Empirita Allotment

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Forage (RMP Allocation)	108 AUMs of forage allocated for 9 cows year long (CYL) on public lands	288 AUMs of forage allocated for 24 cows year long (CYL) on public lands	168 AUMs of forage allocated for 14 cows year long (CYL) on public lands	No forage allocated on public lands
Acres[1, 2] ~~(RMP Allocation)~~	Public land acres: 1,520 Grazed acres: 440 Acres in exclosures: 0 Acres w/out forage allocated: 1,080	Public land acres: 1,520 Grazed acres: 1,000 Acres in exclosures: 520	Public land acres: 1,520 Grazed acres: 1,480 Acres in exclosures: 40	Livestock excluded from all of 1,520 public land acres
Livestock Numbers	337 CYL on allotment (2% BLM) = 9 CYL on public lands	Up to 24 CYL[3] on public lands with numbers set annually in response to resource monitoring and evaluation through biological planning	229 CYL on allotment (5% BLM)[4] = 14 CYL on public lands	0 on BLM Lands; 328 CYL[5] on State Trust Lands in allotment
Stocking Rate	Set stocking rate, but have been running less (See Narrative)	Variable stocking rate	Set stocking rate	Set stocking rate on State Trust Land
Pasture Rotation	Deferred rotation (partially implemented)	Flexible livestock rotation	Deferred rotation	Unknown rotation
Monitoring Process	Decisions based on set livestock numbers, set rotations, and ASLD/NRCS/BLM monitoring	Decisions based on resource conditions/objectives monitoring and review of Biological Planning Team	Decisions based on set livestock numbers, set rotations, and ASLD/NRCS/BLM monitoring	Decisions by Arizona State Land Department (ASLD)
Proposed Improvements	Build and maintain 7 range improvement projects to include: • 1 mile fence • 7.25 miles pipeline (1 new and 6.25 rebuilt) • 1 new well with storage • new storage/trough at old well • 2 corrals (Map 2-22)	Same as Alternative 1 with riparian exclosure at Narrows and at Nogales Spring (Map 2-22)	Same as Alternative 2	None

[1] The numbers of acres available for grazing will vary over time with the numbers of acres in exclosures

[2] The exact number of excluded acres may vary depending on the number, size, and location of study exclosures which will be developed to help evaluate the effectiveness of grazing management.

[3] The actual number of livestock would vary annually due to the flexible stocking in association with the Biological Planning Process described in the Livestock Management Actions for Alternative 2.

[4] BLM does not manage the State lease. Although we suggest stocking under this alternative to be 215 CYL, it would remain at 328 CYL on State Lease.

[5] It is unknown whether the State Lease would continue to be grazed under Alternative 4.

Table 2-17. Current and Proposed Livestock Grazing Management for the Rose Tree Allotment

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Forage (RMP Allocation)	1,104 AUMs of forage allocated for 92 cows year long (CYL) on public lands	1,104 AUMs of forage allocated for 92 cows year long (CYL) on public lands	516 AUMs of forage allocated for 43 CYL on public lands	No forage for livestock allocated on public lands
Acres[1, 2] ~~(RMP Allocation)~~	Public land acres: 3,950 Grazed acres: 3,950 Acres in exclosures: 0	Public land acres: 3,950 Grazed acres: 3,550 Acres in exclosures: 400	Public land acres: 3,950 Grazed acres: 3,950 Acres in exclosures: 0	All 3,950 public land acres excluded from livestock
Livestock Numbers	200 CYL on allotment (45% BLM) = 92 CYL on public lands	Up to 92 CYL[3] with numbers set annually from resource monitoring and evaluation through biological planning	96 CYL[4] on allotment (45% BLM) = 43 CYL on public lands	None on BLM lands on allotment; 108 CYL on State Trust and private lands[5]
Stocking Rate	Set stocking rate	Variable set stocking rate	Set stocking rate	Set stocking rate
Pasture Rotation	Deferred rotation	Flexible stocking rate	Deferred rotation	Unknown rotation
Monitoring Process	Decisions based on set livestock numbers, set rotations, and ASLD/BLM monitoring	Decisions based on resource conditions/objectives monitoring and Biological Planning Team review	Decisions based on set livestock numbers, set rotations, and ASLD/BLM monitoring	Decision by Arizona State Land Department (ASLD)
Proposed Improvements	None currently proposed	• Complete ecological site inventory • Evaluate allotment, including need for grazing plan, range improvements, or both	Same as for Alternative 2	Build 12 miles of fence to exclude cattle from BLM lands

ASLD=Arizona State Land Department.

[1] The numbers of acres available for grazing will vary over time with the numbers of acres in exclosures.

[2] The exact number of excluded acres may vary depending on the number, size, and location of study exclosures which will be developed to help evaluate the effectiveness of grazing management.

[3] The actual number of livestock would vary annually due to the flexible stocking in association with the Biological Planning Process described in the Livestock Management Actions for Alternative 2.

[4] BLM does not manage the State lease. Although we suggest stocking under this alternative to be 53 CYL, it would remain at 108 CYL on State Lease.

[5] It is unknown whether the State Lease would continue to be grazed under Alternative 4.

2. Continue the current stocking rate which is 27 CYL on the BLM portion of the allotment (100% public land use). On the entire allotment, the authorized use is about 282 CYL at 10% public land use = 338 AUMs (rounded to facilitate an even number of cattle for a year-long operation). The grazing lessee, in coordination with the Forest Service, decides on pasture rotation and yearly adjustments in livestock number and voluntary non-use. No biological planning process is in place.

. The Forest Service, BLM, and the operator will continue to determine adjustments in stocking rates from vegetation monitoring studies. The public lands in the allotment are not presently being monitored.

. An ecological site inventory of the rangelands has not been completed.

. A grazing management plan has not been completed.

. No study exclosures exist.

. Continue current grazing management which restricts average utilization to 40-60% of the current year's growth on key perennial grass species, as described in the Alternative 1 summary.

Table 2-18 compares the current grazing management strategy for the Vera Earl Allotment to the alternative allotment management strategies.

Empire Mountains

Under Alternative 1 (Current Management), no grazing allotment has been established in the Empire Mountains although several applications have been filed with BLM requesting the establishment of a new allotment. Table 2-19 compares the grazing management strategies for the Empire Mountains under the four alternatives.

Alternative 2--~~Activity Plan~~ Management Actions (Agency Preferred)

The ~~Activity Plan~~ Management Actions for Alternative 2 can be divided into two main sections. The first section includes management actions that are considered essential to achieving the resource objectives for the Empire-Cienega Planning Area and, therefore, are actions common to ~~the activity plans for~~ all three action alternatives (Alternatives 2, 3, and 4). The second section includes livestock grazing and recreation management actions that differ among the alternatives.

Management Actions Common to Alternatives 2, 3, and 4

Watershed: Upland, Riparian, and Aquatic Area Management Actions

The following actions are proposed in support of the upland vegetation, riparian vegetation, and aquatic ~~and fish and wildlife~~ objectives:

Table 2-18
Current and Proposed Livestock Grazing Management for the Vera-Earl Allotment

		Alternative 2	Alternative 3	Alternative 1
Forage (RMP Allocation)	324 AUMs of forage allocated for 27 cows year long (CYL) on public lands	324 AUMs of forage allocated for 27 cows year long (CYL) on public lands	192 AUMs of forage allocated for 16 cows year long (CYL) on public lands	No forage for livestock allocated on public lands
Acres[1, 2] ~~(RMP Allocation)~~	Public land acres: 1,440 Grazed acres: 1,440 Acres in exclosures: 0	Public land acres: 1,440 Grazed acres: 1,240 Acres in exclosures: 200	Public land acres: 1,440 Grazed acres: 1,440 Acres in exclosures: 0	All of 1,440 public land acres excluded from livestock grazing
Livestock Numbers	27 CYL at 100% BLM	Up to 27 CYL[3] on public lands with numbers set annually in response to resource monitoring and evaluation through biological planning	16 CYL at 100% BLM	0 on BLM Lands; 255 CYL on private, State Trust, and USFS lands
Stocking Rate	Set stocking rate	Variable stocking rate	Set stocking rate	Set stocking rate
Pasture Rotation	Deferred rotation	Flexible livestock rotation	Seasonal use (rotating the season)	Unknown rotation
Monitoring Process	Decisions based on set livestock numbers, set rotations, and BLM monitoring	Decisions based on resource conditions and objectives monitoring and Biological Planning Team review	Decisions based on set livestock numbers, set rotations, and BLM monitoring	Decisions by Arizona State Land Department
Proposed Improvements	None currently proposed	• Complete ecological site inventory • Evaluate allotment, including need for grazing plan, range improvements, or both	Same as Alternative 2	Build two miles of fence to exclude cattle from BLM lands

ASLD = Arizona State Land Department; USFS = U.S. Department of Agriculture Forest Service
[1] The numbers of acres available for grazing will vary over time with the numbers of acres in exclosures.
[2] The exact number of excluded acres may vary depending on the number, size, and location of study exclosures which will be developed to help evaluate the effectiveness of grazing management.
[3] The actual number of livestock would vary annually due to the flexible stocking in association with the Biological Planning Process described in the Livestock ~~Activity Plan~~ Management Actions for Alternative 2.

Table 2-19
Current and Proposed Livestock Grazing Management for the Empire Mountains

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Forage (RMP Allocation)	None	360 AUMs allocated for 30 cows year long (CYL) on public lands	324 AUMs allocated for 27 cows year long (CYL) on public lands	None
Acres [1, 2] ~~(RMP Allocation)~~	No allotment established on 2,480 public land acres in Empire Mountains	Public land acres: 2,480 Grazed acres: 2,000 Acres in exclosures: 480	Public land acres: 2,480 Grazed acres: 2,480 Acres in exclosures: 0	No allotment established on 2,480 public land acres in Empire Mountains
Livestock Numbers	N/A	Up to 30 CYL[3] on public lands with numbers set initially and then annually in response to resource monitoring and evaluation through biological planning	38 CYLs at 70% BLM on allotment and 27 CYL on public lands	N/A
Stocking Rate		Variable stocking rate	Set stocking rate	
Pasture Rotation		Flexible livestock rotation	Deferred rotation	
Monitoring Process		Decisions based on resource conditions/objectives monitoring and review of Biological Planning Team	Decisions based on set livestock numbers, set rotations, and BLM monitoring	
Proposed Improvements		• Complete ecological site inventory • Develop grazing plan to meet objectives and develop needed range improvements before authorizing any use.	Same as Alternative 2	

[1] The numbers of acres available for grazing will vary over time with the numbers of acres in exclosures.
[2] The exact number of excluded acres may vary depending on the number, size, and location of study exclosures which will be developed to help evaluate the effectiveness of grazing management.
[3] The actual number of livestock would vary annually due to the flexible stocking in association with the Biological Planning Process described in the Livestock ~~Activity Plan~~ Management Actions for Alternative 2.

1. Implement an integrated vegetation treatment program.

The resource goals and objectives in this plan require maintaining desired plant communities, where they are occurring, and attaining desired vegetation states, where existing conditions are not satisfactory. BLM will apply integrated vegetation treatment to meet vegetation objectives by directing desired changes in vegetation communities selected by the plan's monitoring and evaluation protocol. This proposed vegetation treatment program will respond to the many plant-control requirements for achieving resource objectives. With the proposed changes to livestock grazing, recreation, and other land uses, the vegetation treatments are designed to meet the resource objectives.

The proposed treatment program would allow the use of prescribed burning and chemical applications (mainly herbicides), as well as provide for the use of manual, mechanical, and biological treatments. The integrated vegetation management approach consists of selecting and integrating treatment methods for predicted ecological, sociological, and economic effects. BLM will select vegetation treatment methods for a particular project in response to site-specific analyses, which will consider several important parameters including the following:

- Characteristics of the target plant species.
- Associated non-target plant species.
- Uses of the target area.
- Physical characteristics of the area to be treated.
- Climatic conditions at the time of treatment.
- Proximity to sensitive areas.
- Need for pretreatment of areas or later re-vegetation.
- Determining environmental effects.
- Feasible alternatives.

In non-wildland urban interface areas, BLM will implement the integrated vegetation treatment strategy in coordination with surrounding land owners including the Coronado National Forest (which has an upcoming planning process), Arizona State Land Department, and private land owners. The strategy will include the cooperative planning and implementation of prescribed fire on lands within and adjacent to the planning area when it is practical from ecological and administrative standpoints. This collaboration may result in an enlarged potential prescribed fire treatment area in the eastern portion of the planning area, beyond the 20,000 acres initially proposed. (Appendix 2 describes the vegetation treatment methods in more detail.)

The following are the general vegetation treatment prescriptions for each allotment:

- **Empire-Cienega**--Treat **up to** 11,582 acres of Sandy Loam Upland and Loamy Upland ecological sites, **where desired ecological condition has not been achieved**. Methods would include **a combination of prescribed fire,** combined mesquite cutting, applying herbicide to cut stumps, burning slash and shrubby vegetation, and deferring grazing (Map 2-23). Vegetation treatments may be prescribed for additional acreage in the future in response to vegetation monitoring.
- **Empirita**--Treat **up to** 8,324 acres of Limy Slopes and Limy Upland ecological sites. Methods would include prescribed burning and deferred grazing (Map 2-23). Vegetation treatments may be prescribed

Map 2-23
Vegetation Treatments

for additional acreage in the future in response to vegetation monitoring

- **Rose Tree**--Conduct ecological site inventory to determine the vegetation condition compared to the site potential and the upland vegetation objective. Evaluate the need for any vegetation treatments and develop proposed projects as suitable.

- **Vera Earl**--~~None proposed.~~ **Conduct ecological site inventory to determine the vegetation condition compared to the site potential and the upland vegetation objective. Evaluate the need for any vegetation treatments and develop proposed projects as suitable.**

- **Empire Mountains**--Conduct an ecological site inventory to determine the vegetation condition compared to the site potential and the upland vegetation objective. Evaluate the need for any vegetation treatments and develop proposed projects as suitable.

2. Designate the public lands within the Empire-Cienega Planning Area as a noxious/invasive weed management area (See Appendix 2 for more information).

   BLM will not introduce or authorize the introduction of exotic species, unless doing so is essential to control noxious weeds or other undesirable species. BLM will continue to consider potential noxious weed and invasive species impacts in environmental assessments prior to authorization of projects on public lands in the planning area. BLM will continue to consider authorization of control activities for exotic species or noxious weeds on a case-by-case basis in accordance with provisions of the Act.

3. Remove or control non-native vegetation species where monitoring finds that they threaten native species and where control is feasible and will not degrade ecosystem function over the long-term.

4. ~~Require permits for collecting and harvesting plant materials in any amount for commercial or noncommercial use. Assess on a case-by-case basis proposals for collecting and harvesting plants. Plant collections must contribute to or not conflict with maintaining or meeting the planning area's resource objectives.~~ Implement a Vegetative Products Management program with the following guidelines:

   a. Collection of flowers, leaves, and fruit (including nuts, berries, and seeds) from plants on BLM managed public lands would be allowed for personal use in accordance with state native plant laws. The quantity of material collected would be limited to a maximum of up to 20 pounds (depending on the type of material) per person per year. **If monitoring determines that levels of use have become an issue, a free use permit system would be initiated and permits would be issued up to the amount of vegetative material available under sustained yield.**

   b. Collection of dead and down and detached wood for on-site campfire use would be allowed.

   c. Reasonable amounts of wood may also be used for administrative purposes.

   d. Collection of entire live plants or cholla skeletons, yucca or agave stalks, and ocotillo would not be permitted except for in salvage or treatment areas as described below.

   e. Harvest of entire live plants or skeletons of plants (including yucca or agave stalks, cholla skeletons, dead or dormant ocotillo stems) for personal or commercial use would be limited to permitted salvage operations, where vegetation is destined to be destroyed by surface disturbance, or to vegetation treatment areas, where removal of specific vegetation will help

achieve the objectives of the treatment. Salvage operations are anticipated to be only in small project areas, whereas vegetation treatments may cover larger areas.

f. Negotiated sales of vegetative products (excluding entire live plants, yucca or agave stalks, cholla skeletons, and dead or dormant ocotillo stems) for commercial use would be considered in the future. Proposed sales would be subject to compliance with the National Environmental Policy Act and only if it complies with the NCA legislation and the objectives of this plan. Criteria used to determine suitability of any proposed sales would include the following:

- lack of significant impacts to soils, cultural resources, threatened and endangered species, riparian areas and other sensitive resources.
- Consistency with management objectives of the NCA plan.
- Ability to harvest product on a sustained yield basis.
- Conformance with visual resource management policy.
- Accessibility from designated roads and trails.
- Whether harvest would promote invasive species.
- Level of public demand and relative availability of product in region.
- Ability to mitigate any surface disturbance.

g. Collection of live vegetation or vegetative products will be allowed for legitimate scientific uses when covered by an approved research permit and subject to compliance with the National Environmental Policy Act.

5. Work with other entities within the watershed to maintain or improve watershed processes and characteristics that affect infiltration, runoff, and sediment transport. Current sub-watersheds of concern include: Gardner Canyon, Springwater Canyon, Mattie Canyon, Fresno Canyon, and Apache Canyon.

6. Implement the existing watershed activity plan developed for Wood Canyon to stabilize erosion and restore the natural function of the drainage. The activity plan sets forth the following management prescriptions:

   a. Monitor the rate at which the gully system in lower Wood Canyon is advancing and the mechanism involved in this erosion process.

   b. Once the cause of erosion has been determined, develop methods for stabilization.

   c. Implement methods of erosion prevention in lower Wood Canyon and other areas where this type of erosion is advancing.

7. Continue ecological restoration of old agricultural fields along Cienega Creek including, where feasible, routing drainages across diversion canal, restoration of wetland at south end, and restoration of sacaton/mesquite plant community.

8. Repair eroding streambanks or terraces at abandoned stream crossings or other disturbed sites along Cienega Creek and its tributaries where erosion from these banks or terraces is harming riparian or aquatic habitats or function.

9. Inventory lentic (ponded) wetlands in the Cienega Creek floodplain including Cinco ponds and complete lentic PFC evaluation (See Appendix 2). Any wetlands determined to be 'non-functional" will be managed to meet the definition of proper functioning condition and advanced seral state of the plant community (See Desired Future Conditions section at the beginning of this chapter). Methods used to achieve functional condition may include periodic burning, livestock exclusion, or changes in season and/or duration of use in the appropriate combination.

. Limit motorized vehicles to designated roads and crossings on public lands (See Table 2-19A and Maps 2-6, 2-13, and 2-18).

11. Limit crossings of Cienega Creek for permitted group activities to dry crossings or designated road or trail crossings. Designated road and trail crossings are shown on the designated road system maps (See Maps 2-6, 2-13, and 2-18) for Alternatives 2, 3, and 4.

12. Prohibit recreational gold panning, dredging, or sluicing within Cienega Creek or its tributaries on public lands within the proposed areas of critical environmental concern (ACECs). ACEC boundaries for Alternatives 2, 3, and 4 are shown on Maps 2-10 and 2-16.

13. In riparian areas, prohibit camping within 100 feet of each side of the stream channel (whether flowing or dry).

14. Minimize the building of developments in the 100-year floodplain. Limit developments to those needed to reduce impacts on riparian and aquatic areas.

15. Ensure that activities in riparian areas do not cause streambank stability to drop below 90%. Methods to protect streambanks could include education and restrictions on activities. Streambank stability is measured as a percentage of alteration to streambanks including broken-down, eroded, or denuded streambanks from any mix of activities.

16. Implement design changes on roads where change is found to be needed to halt excessive erosion or reduce other resource impacts.

Fish and Wildlife Management Actions

Under Alternatives 2, 3, and 4, BLM would carry out the following actions in managing fish and wildlife in support of the fish and wildlife objective:

. Use the Section 7 consultation process with the U.S. Fish and Wildlife Service to ensure that actions undertaken do not jeopardize the existence of endangered or threatened species or species proposed for listing. **(*Common to All Alternatives*)**

. Cooperate with state and federal agencies, universities, conservation groups, and other organizations on proposals including fish and wildlife research, fish and wildlife habitat improvement projects, inventory and monitoring of species and habitats, and mitigation of impacts from other activities. **(*Common to All Alternatives*)**

. Implement the following measures to protect lesser long-nosed bat roosts and/or foraging habitat:

  . Ensure that road or trail building and maintenance activities do not increase or facilitate public access to known day roosts of lesser long-nosed bats.

  . Conduct pre-construction surveys for paniculate agaves to avoid or minimize their injury and mortality during any construction.

  . Design vegetation treatments, including prescribed fire, to minimize harm to

Table 2-19A
Designated Road Crossings on Cienega Creek and Empire Gulch
Las Cienegas Resource Management Plan

Road Number	Route Designation (Alternative 1) -Current Management	Route Designation (Alternative 2) -Proposed Management)	Route Designation (Alternative 3)	Route Designation (Alternative 4)	Notes
EC-901 at Empire Gulch	Open to all motorized travel.	Open to all motorized travel.	Open to all motorized travel.	Open to all motorized travel.	Perennial water through culvert under concrete crossing. Flows over structure only during peak flood flows.
910D (Narrows)	Open to all motorized travel.	Closed to all travel. Obliterate and revegetate (as necessary).	Open to non-motorized travel	Closed to all travel. Obliterate and revegetate (as necessary).	Several crossings across perennial portion of Cienega Creek, but very marshy in stream. Under current management, proposed to be closed to motorized vehicles as part of restoration project.
910B (Fresno Gap)	Open to all motorized travel (up to creek).	Closed to all motorized travel. Open (across creek) for non - motorized travel*.	Closed to all motorized travel. Open (across creek) for non - motorized travel*.	Closed to all motorized travel. Obliterate and revegetate (as necessary).	Under current management, road crossing through Cienega Creek at Sanford Canyon has been closed to motorized vehicles for restoration and spur to Falls has been closed to motorized vehicles due to hazards
EC-901 at Cienega Creek	Open to all motorized travel.	Open to all motorized travel.	Open to all motorized travel.	Open to all motorized travel.	Concrete crossing. Water flows at crossing about ½ year
EC-901B at Cienega Creek (Ag. Fields)	Closed to all motorized travel. Open for non - motorized travel.	Closed to all motorized travel. Open for non - motorized travel (upstream).	Closed to all motorized travel. Open for non - motorized travel (upstream).	Closed to all motorized travel. Obliterate and revegetate (as necessary).	Under current management, road crossing has been closed due to restoration project. An alternative non-motorized crossing will be developed upstream under Alternatives 2 and 3.

Table 2-19A, continued
Road Crossings on Cienega Creek and Empire Gulch Under Alternative 2
Las Cienegas Resource Management Plan

Road Number	Route Designation Current Management (Alternative 1)	Route Designation Proposed Management (Alternative 2)	Route Designation (Alternative 3)	Route Designation (Alternative 4)	Notes
EC-901A at Cienega Creek (Oak Tree Canyon-Bahti's Bog)	Closed to all motorized travel for restoration.	Closed to all travel. Obliterate and revegetate (if necessary).	Closed to all travel. Obliterate and revegetate (if necessary).	Closed to all travel. Obliterate and revegetate (if necessary).	Perennial water in creek. Route across creek has already overgrown and revegetated.
EC-903 at Cienega Creek (Springwater Canyon)	Closed to all motorized travel for restoration.	Closed to all travel. Obliterate and revegetate (if necessary).	Closed to all travel. Obliterate and revegetate (if necessary).	Closed to all travel. Obliterate and revegetate (if necessary).	Perennial water in Creek. Route through sacaton and across creek is overgrown with vegetation.
EC-904 at Cienega Creek (Gardner Canyon)	Closed to all motorized travel for restoration.	Closed to all travel. Obliterate and revegetate (if necessary).	Closed to all motorized travel. Open (across creek) for non - motorized travel*.	Closed to all travel. Obliterate and revegetate (if necessary).	Perennial water in Creek. Route across creek is overgrown with vegetation.
EC-914A at Cienega Creek (Headwaters)	Open to all motorized travel.	Closed to all travel. Obliterate and revegetate (if necessary).	Closed to all travel. Obliterate and revegetate (if necessary).	Closed to all travel. Obliterate and revegetate (if necessary).	Dry sand crossing with flows only during storm events. Road approaches severely eroded
EC-914 at Cienega Creek (Above Headwaters)	Open to all motorized travel.	Open to all Motorized travel.	Open to all Motorized travel.	Open to all Motorized travel.	Dry sand crossing with flows only during storm events.
EC-913 at Cienega Creek (Oil Well)	Open to all motorized travel.	Open to all motorized travel.	Open to all motorized travel.	Open to all motorized travel.	Dry sand crossing with flows only during storm events.
EC-900 at Cienega Creek (South Road)	Open to all motorized travel.	Open to all motorized travel.	Open to all motorized travel.	Open to all motorized travel.	Dry sand crossing with flows only during storm events.

* Non-motorized travel is hiking, equestrian, and mountain bike use.

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paniculate agaves and to ensure that no more than 20% of agaves that are burned during prescribed fire are killed by the fire.

d. Develop a mitigation plan in coordination with the Fish and Wildlife Service for any vegetation treatment, including prescribed fire, within 0.5 mile of a bat roost or in areas that support paniculate agaves.

4. Implement the following measures to protect jaguar and jaguar habitat:

a. Maintain dense, low vegetation in the Cienega Creek riparian corridor for jaguar.

b. Do not subject jaguar to any predator control activities.

c. Investigate all reports or observations of jaguars in coordination with the Fish and Wildlife Service and the Arizona Game and Fish Department.

5. Implement the following measures to protect Southwestern willow flycatcher and flycatcher habitat:

a. Manage suitable willow flycatcher habitat so that its suitable characteristics are not eliminated or degraded.

b. Manage potential willow flycatcher habitat to allow natural regeneration into suitable habitat, as rapidly as possible.

c. Control cowbirds within five miles of occupied habitat using suitable control methods, if cowbird concentrations indicate a strong likelihood that parasitism to flycatcher nests is occurring or if parasitism of a nest is documented.

Note: Other actions to protect Southwestern willow flycatcher and flycatcher habitat from impacts of livestock grazing can be found in the livestock grazing management action sections of ~~the Activity Plans for~~ Alternatives 2 and 3.

6. Implement the Gila topminnow recovery plan to increase security for the Cienega Creek Gila topminnow population by the following:

- Protecting surface water quality and quantity.

- Protecting the creek from contamination by non-native fish and frogs and their parasites.

- Achieving and maintaining habitat integrity and function.

- Accomplish this action through the following:

a. Securing enough instream flow rights for Cienega Creek to maintain the existing aquatic and riparian habitat in the creek for fish and wildlife (i.e., supports riparian and aquatic habitats and the Gila topminnow, longfin dace, Gila chub, native leopard frog, Sonoran mud turtle, Mexican garter snake, and other species dependent on flowing surface water).

b. In partnership with the Arizona Game and Fish Department (AGFD), controlling or removing exotic fishes and amphibians from stock tanks or streams in portions of the basin that drain into perennial parts of Cienega Creek. Coordinate with AGFD on the need to renovate (i.e., chemically treat) waters that contain exotic fishes and amphibians that threaten any native fishes or frogs.

c. Developing information and erecting signs on the need to protect Cienega Creek from exotic fish and other non-native aquatic organisms.

. Minimizing road access and crossings in the creek to decrease the opportunity for live releases of game fish and bait. Proposals for minimizing road access and crossings vary by alternative and are shown on the designated road system maps for Alternatives 2, 3, and 4 (See Maps 2-6, 2-13, and 2-18).

. Working with the Pima County **and Santa Cruz County** Health Departments to ensure that mosquitofish are not used as a biological control for mosquitos in the basin.

. Evaluating and stocking three or more ~~range extensions~~ **reintroductions** within the basin with Gila topminnow in cooperation with the Arizona Game and Fish Department and the U.S. Fish and Wildlife Service. Sites currently selected for reintroduction include Nogales and Little Nogales Springs, Upper Empire Gulch, and Cinco Ponds. **Additional sites may be proposed in the future if determined to be suitable**.

Note: Other actions to protect Gila topminnow and topminnow habitat from impacts of livestock grazing can be found in the livestock grazing management action sections of ~~the activity plans for~~ Alternatives 2 and 3.

. Reestablish, extend the distribution within, historic ranges of, or supplement populations of the following wildlife species in the Sonoita Valley, where determined to have suitable habitat and be compatible with other management activities:

Aplomado falcon (*Falco femoralis*)
Gould's turkey (*Meleagris gallopavo mexicana*)
Gila topminnow (*Poeciliopsis occidentalis*)
Desert pupfish (*Cyprinodon macularius*)
Beaver (*Castor canadensis*)
Gila chub (*Gila intermedia*)
Pronghorn antelope (*Antilopcapra americana*)
Lowland leopard frog (*Rana yavapaiensis*)
Chiricahua leopard frog (*Rana chiricahuensis*)
~~Native leopard frogs (*Rana* ssp.)~~
Black-tailed prairie dog (*Cynomys ludovicianus*)
(Other species may be considered as new information or management needs become known.)

Accomplish this action through the following steps:

a. Determine the population status and resources available (e.g., habitat quality, water availability) to wildlife species proposed for reestablishing ~~range extension,~~ or supplementing.

b. When habitat conditions have been determined to be suitable for the survival of any of the above species, coordinate the suitable action (reestablishing or ~~range extension~~, supplementing) by established procedures with the suitable combination of agencies and land owners: Arizona Game and Fish Department, U.S. Fish and Wildlife Service, BLM, Arizona State Land Department, and affected private landowners.

. Coordinate with the Arizona Game and Fish Department to remove or control non-native species where monitoring finds that they threaten native species.

. Manage for a mosaic of priority habitats (e.g., riparian/wetland, grassland, oak woodland, mesquite bosques) by applying vegetation treatments (including prescribed fire) as outlined in the integrated vegetation treatment program; reestablish wildlife species where determined feasible through steps outlined above in ~~#2~~ **#7**; and periodically rest areas from grazing.

. Take the following actions to meet Upland Vegetation Sub-Objective B for pronghorn ~~antelope~~:

a. Use prescribed fire and/or mechanical or chemical vegetation treatments as well as periodic rest from grazing to meet the habitat objective for pronghorn.

b. Provide usable water sources within one mile of each other in pronghorn fawning areas and do not exceed four miles between usable water sources in pronghorn habitat. Evaluate and monitor suitability of waters and distance to permanent and functioning waters.

c. Modify or remove fences that restrict pronghorn movement. Fences proposed for modification are shown on Map 2-24. Additional fences may be proposed for modification or removal in the future in response to monitoring data.

d. Maintain fences that protect pronghorn from hazards (e.g., highway fences) and erect other restrictive fencing where needed.

e. Investigate pronghorn use of highway underpasses and explore other partnership opportunities to help pronghorn cross highways. (Note: Include possibility of overpasses if highway is ever re-engineered. Using areas with cuts on each side would essentially form short tunnels for vehicles.)

. Recommend to the community through Sonoita Crossroads or another avenue that developments be encouraged to cluster homes to provide open movement areas that could double as community viewing locations for pronghorn.

. Recommend to the community through Sonoita Crossroads or other avenue that ~~antelope~~ **pronghorn**-friendly fencing be installed in developments to ease ~~antelope~~ **pronghorn** movement in the community.

. Minimize human disturbances by allowing where possible only low-use primitive camping and low-use livestock holding and handling areas in pronghorn habitat.

i. Minimize road densities and redundant roads in pronghorn habitat by implementing the designated road network. Low-use dirt roads are preferable to high-use dirt, gravel, or paved roads.

j. Develop partnership educational materials on ~~antelope~~ **pronghorn**.

k. Do not authorize dog trials in pronghorn habitat on public lands during the fawning season (April-June).

. Require that dogs be leashed during the fawning season in key fawning areas on public lands (See Map 2-25).
Note: Other actions for pronghorn relating to managing livestock grazing can be found in the livestock grazing management actions section of ~~the Activity plans for~~ Alternatives 2 and 3.

. To meet Upland Wildlife Habitat Sub-Objective A for grassland sparrow habitat, implement proposed vegetation treatments including prescribed fire and other upland restoration actions to reduce shrub canopy and enhance grass species diversity and cover, as described in the watershed restoration portion of this section**.**

Map 2-24
Proposed Fence Modifications

Map 2-25

Pronghorn Habitat and Fawning Areas

12. Improve wildlife populations by reducing habitat fragmentation, establishing adequate movement/dispersal areas, and ensuring water sources. Accomplish this by the following:

    a. Modify or remove fences where feasible. Fences proposed for modification are shown on Map 2-24. Additional fences may be proposed for modification or removal in response to monitoring data.

    b. Remove or modify roads and rights-of-way, as described in the road closures and restrictions portion for each alternative.

    c. Reduce human disturbance on public land in critical areas or during critical times of the year.

    d. Purchase conservation easements or land from willing sellers through the Land and Water Conservation Fund.

    e. Maintain existing water sources and provide supplemental water sources as found to be needed through water sources inventory and evaluation.

Cultural Resource Management Actions

Management of cultural resources under Alternatives 2, 3, and 4 differs from that under Alternative 1 in several ways. The master plan for the Empire Ranch Headquarters provides for adaptive reuse of headquarters buildings and expanded interpretative, research, and education programs at the headquarters. A restoration program is proposed for selected buildings. And the headquarters is managed as a Zone 1 recreation area. Outside of the headquarters area, several sites are allocated to scientific use.

Under Alternatives 2, 3, and 4, BLM would carry out the following actions in support of the cultural resources objective:

Empire Ranch Headquarters

1. Allocate the historically significant buildings at the Empire Ranch Headquarters to public use. ***(Common to All Alternatives)***

2. Under Alternatives 2-4, the Cultural Resource Project Plan (CRPP) in the form of a "Master Plan" will provide for developing and implementing adaptive uses of the headquarters area and buildings for an array of compatible educational, research, interpretive, and administrative programs. Under Alternatives 2-4, the headquarters would be developed for public uses as a quality museum experience with a heritage discovery trail and expanded educational programs as described below: ***(Common to Alternatives 2, 3, and 4)***

    a. The Empire Ranch House would be stabilized, restored, and interpreted as a historic house or museum according to an adaptive reuse plan. Interpretive themes would include the ranch, local and regional history, events, and people.

    b. The *Heritage Discovery Trail* would be developed and interpreted for visitors, school groups, and recreationists. The Empire Ranch Headquarters buildings, landscapes, structures, and features and provide wayside exhibits, signs, and observation points interpreting natural and cultural resources.

    c. *Education on the Empire* would be adopted as an educational program built around historic and natural topics, which would feature the Discovery Corral and other programs for children and students, lifelong learning and professional training, and support for teachers.

3. Evaluate and submit materials nominating the complex of historic buildings (built or placed before 1950) at the Empire Ranch Headquarters to the National Register of

Historic Places by 2003 **(dependent on adequate funding)**. (The Empire Ranch House is listed on the National Register). ***(Common to All Alternatives)***

. At the Empire Ranch Headquarters, continue to stabilize and preserve historic buildings eligible for or listed on the National Register of Historic Places and complete a restoration program for selected buildings. Use grant, partnership, volunteer, and funding and labor sources. ***(Common to Alternatives 2, 3, and 4)***

. Stabilize and maintain all eligible or listed historic structures in accord with the Secretary of the Interior's *Standards and Guidelines for the Treatment of Historic Properties* and *Standards and Guidelines for Rehabilitating Historic Buildings on the National Register*. ***(Common to All Alternatives)***

. Manage and maintain at BLM standards for safety, accessibility, and occupancy, buildings and structures within the complex that are not eligible for listing on the National Register of Historic Places, including recreational facilities, storage buildings, sheds, shops, and occupied structures. ***(Common to All Alternatives)***

. Continue partnership with the Empire Ranch Foundation and other interested groups in the following: ***(Common to All Alternatives)***

  . Planning use of the headquarters complex.

  b. Stabilizing/preserving structures at the headquarters.

  . Collecting, preserving, and interpreting historic information and materials about the Empire Ranch and the surrounding area.

  . Volunteer projects.

  . Educational programs.

. Actively maintain and provide opportunities for the public to volunteer for projects to preserve, conserve, and study the planning area's cultural resources. ***(Common to All Alternatives)***

. Manage the ranch headquarters to include support of historic ranching operations, administration of BLM programs, and protection in the planning area, and public uses emphasizing education, research, interpretation, and visitation. ***(Common to All Alternatives)***

. ~~Continue producing limited~~ **Produce a variety of** interpretive materials (e.g., brochures, web site information, news/features) about Empire Ranch history. ~~***(Common to All Alternatives)***~~ ***(Common to Alternatives 2, 3, and 4)***

Cultural Properties Outside the Headquarters Area

. Allocate the Mattie Canyon site complex, the Sandford Homestead site, and the Pump Canyon site to scientific use and open them to scientific and historical study by qualified researchers and scholars. (See Appendix 2 for detailed description of this action). ***(Common to Alternatives 2, 3, and 4)***

. If determined feasible, ~~develop~~ selected sites could be developed for interpretation and public visitations. BLM would implement this action only if funds and staff are available to adequately develop an interpretive program that would not harm the resources.

3. Conduct Class III cultural resource surveys along ~~93.9~~ 91.9 miles of roads and trails by 2004 **(dependent on adequate funding)**.

4. Conduct Class III cultural resource surveys of about 40,000 acres by 2005 **(dependent on adequate funding)**. BLM would use data from these surveys to make future allocation and use decisions.

5. Conduct an ethnoecological study of the planning area, complete with report, by 200~~3~~*4* **(dependent on adequate funding)**. ***(Common to All Alternatives)***

6. Work with Native Americans, including the Tohono O'odham Nation, the Hopi Tribe, and the San Carlos Apache Tribe, to select harvesting areas and allow noncommercial collection of bear grass, cottonwood, acorns and medicinal/ceremonial herbs by ~~2001~~ 2003. ***(Common to All Alternatives)***

7. Develop the headquarters as a Zone 1 recreational area, in general, but with specific plans for headquarters access, trail loops, interpretive facilities, information signs, visitor facilities, and designated day, overnight and weekly uses. ***(Common to Alternatives 2, 3, and 4)***

Access and Transportation Management Actions

The following actions are proposed **under Alternatives 2, 3, and 4** in support of the recreational opportunities objective:

1. BLM will pursue acquisition of perpetual rights-of-ways across State Trust Land parcels on the south entrance road (EC-900), Cienega Ranch Road (EC-901), Cieneguita Road (EC-904), and Oak Tree Canyon Road (EC-02) to ensure continued public access (Map 2-26).

   BLM may seek additional legal access in the future, if warranted by changes in land tenure due to BLM's acquisition of ~~more~~ State Trust or private land.

2. BLM-produced information and interpretive materials will continue to describe access to the Empire-Cienega Planning Area as the Highway 82 and 83 access points. In addition, BLM will call the Oak Tree Canyon entrance a limited access point for off-highway vehicles (OHVs) from the ~~established Forest Service OHV staging~~ **Forest Service trail head parking** area in Oak Tree Canyon. (The crossing under the highway fluctuates from non-motorized access to only small-wheel-base vehicles (ATVs) and motorcycles, depending on flood damage to the culvert.) If issues result from (1) public use of other access points, including resource damage on public lands, (2) user conflicts, or (3) conflicts with surrounding land owners, BLM will take steps to resolve these issues, including education, restrictions, and, as a last resort, closures.

3. All non-motorized trails will be open to hiking, equestrian, and mountain bike use **with the exception of routes on the Appleton-Whittell Research ACEC where horseback use of roads and trails is not allowed for the protection of research values**.

4. On a case-by-case basis, BLM will evaluate future **trail designation** proposals ~~for designation of motorized or non-motorized trails~~, including the Great Western Trail, for conformity with planning area resource objectives and for conflicts with management prescriptions under the selected alternative. Generally, ~~new~~ **these** trail designations will be considered only for ~~existing~~ routes **on the designated transportation system**. Proposals for new trail construction would be considered only if the new construction is to replace a segment of trail or road that is being or will be reclaimed.

Map 2-26

Proposed Right-of-Way Acquisitions
Alternatives 2,3 and 4

. BLM will complete a transportation system project plan for the planning area by 2004. The plan will include road numbering, signing, implementing closures and restrictions, and a road maintenance schedule using the Facility Inventory Maintenance Management System (FIMMS) (See Appendix 2).

Recreation Management Actions–

The following actions are proposed under Alternatives 2, 3, and 4 in support of the recreational opportunities objective:

. **Special Land Use Permit**--The mixed land ownership pattern within the planning area, and particularly the intermixed BLM and State Trust Lands that are managed under differing mandates, creates recreation management challenges. To improve recreation management and provide for more seamless recreation opportunities, BLM will work with the Arizona State Land Department (ASLD) to pursue acquisition of a special land use permit (SLUP) for State Trust Lands within the planning area to provide public recreation opportunities on these lands Currently, recreationists using State Trust Lands for purposes other than hunting must obtain a permit and pay a fee to the ASLD. Hunters must have a valid license issued by the Arizona Game and Fish Department and be engaged in hunting.

2. **Special Recreation Use Permit System**--BLM will analyze the feasibility of implementing a permit system for individual recreational use on the public lands within the planning area. The purpose of the permit system will be to provide a visitor management tool for ensuring the conservation of resources and the continued quality of recreation opportunities, both of which are impacted by increasing levels of human use of the area. The permit system will be developed using a public collaborative process with both fee and non-fee systems examined as options. If a SLUP with the Arizona State Land Department is obtained, then an integrated permit system will be pursued to ensure that the public would need only one permit for the area.

   If the option of a fee program is pursued, it will be under the Land and Water Conservation Fund (LWCF) Act. The LWCF Act of 1965 gives BLM the primary authority to charge fees for use of recreational facilities and public lands, and for Golden Age and Golden Eagle Passports. Until the late 1980s, fees collected under this authority were deposited into the LWCF account, and BLM could not use them for managing recreation sites or programs. In 1988 Congress established a Recreation Operations Subactivity and began to reappropriate funds to BLM on the basis of a previous year's deposit. The funds can now be used for resource protection and for managing recreation sites and programs in the area where the fees originated.

3. **Special Recreation Permits**--Many types of Special Recreation Permits may be applied for on Las Cienegas NCA for commercial, competitive and organized group events. These applications would continue to be considered on a case-by-case basis and issuance of permits is discretionary. Many applications for incompatible uses may be sought in areas that may not be suitable for the use and may conflict with the maintenance of certain desired resource conditions and recreation settings established under Alternatives 2, 3, and 4. Indirect promotion of more primitive areas may also occur. Table 2- 19B is designed to provide guidance and flexibility in considering the types, number, groups sizes and frequencies of Special Recreation Permits in each Recreation Zone.

4. **Management of Dispersed Recreation**

   A variety of dispersed recreation activities are ongoing on public lands within the planning area and most would continue to be available under Alternatives 2, 3, and 4 where consistent with Las Cienegas NCA Act, management prescriptions in this plan, and federal regulations and policy. Table 2-19C lists a variety of dispersed recreation activities which are generally suitable within each recreation zone. Other recreation activities which are generally suitable for public lands in the planning area are included in BLM's Recreation Management Information System (RMIS) (Appendix 2). The following is a summary of visitor use restrictions for public lands in the planning area that are common to Alternatives 2, 3, and 4. These prescriptions are found in various sections of this plan for resource or visitor management and protection. Other federal and state visitor use regulations also apply:

- Motorized vehicles are limited to designated routes in all alternatives. Bicycles and other mechanized vehicles are limited to designated routes in Alternatives 2 and 4. Driving "off road," which means driving a vehicle off a designated road and onto unroaded terrain, is not permitted. Motorized use on primary access roads 900, 901, 902 require all vehicles to be currently licensed, insured and registered.

Table 2-19B
Special Recreation Permit Guidance by Recreation Management Zone
Las Cienegas Resource Management Plan

Types of Special Recreation Permits	Zone 1 Roaded Natural	Zone 2 Natural	Zone 3 Backcountry
Commercial Guided Tours (Motorized)	Yes	Yes	Yes
Commercial Guided Tours (Non-Motorized)	Yes	Yes	Yes
Commercial Hunting Outfitters and Guides	SCO[1]	Yes	Yes
Competitive Events (Motorized)	SCO	SCO	SCO
Competitive Events (Non-Motorized)	SCO	Yes	Yes
Organized OHV Event	SCO	SCO	SCO
Organized Group Event	SCO	Yes	Yes
Interpretation, Education & Nature Study (Motorized)	Yes	Yes	Yes
Interpretation, Education & Nature Study (Non-Motorized)	Yes	Yes	Yes
Maximum Trips Per Day	3	2	2
Number of Overlapping[2] Permits Per Use Area	3	2	2
Site Fee Reservation	Optional	Optional	Optional
Group Size (Requires Special Recreation Permit When Meets or Exceeds This Number[3])	30 or more people up to the maximum group size allowed in staging area	30 or more people up to the maximum group size allowed in staging area	30 or more people up to the maximum group size allowed in staging area

[1]SCO = Special Circumstances Only. This type of activity is not suitable for the Zone, however, under special circumstances exceptions may be made.
[2]Overlapping means more than one permit using the same area at the same time.
[3] Other conditions may warrant a special recreation permit, including commercial and competitive events.

- In Zones 1 and 2, designated pullouts are to be used for parking. In Zone 3, you may park along roads but may not drive a vehicle off a road more than 25 feet to park.
- Speed limits on roads are 25 mph unless otherwise posted.
- The carrying capacity of roads or planned desired condition of roads will dictate type of use. Most back roads will be maintained, at a

minimum, where high clearance vehicles to 4-wheel drive vehicles will be necessary, therefore, precluding low clearance vehicle use such as motor homes and sedans. Camping is not allowed in recreation Zone 1, is restricted to designated camping areas in Zone 2, but is allowed in Zone 3. However, camping is not allowed within 100 feet of streams in all recreation zones.

- Recreational mining is not allowed.
- Restrictions are placed on the amounts and types of plant materials which may be collected.
- Restrictions are placed on the amounts, types and methods by which rocks can be collected.
- Dogs must be leashed in pronghorn fawning areas from April to June.
- Cienega Creek has been closed to fishing by Arizona Game and Fish Commission order.
- Recreation activities which damage resources, endanger public health and safety, or litter are prohibited. Conducting simulated combat activities using paint ball guns and smoke bombs is inconsistent with the Leave No Trace land use practices encouraged by BLM and other land management agencies. Leaving empty cartridges, bullets, permanent stains, and other by-products in an area is considered littering or damaging resources and is subject to fines.

. **Interpretive Program.** BLM will develop an interpretive program for the planning area by 2002~~-~~ 4. Interpretation is a voice for all resource management objectives and programs in this plan. This program will support the overall vision, goals, and objectives of this plan by serving customers, promoting the health of the land, and enhancing the understanding of this area's natural and cultural resources and its management. This program integrates all resource objectives with prescriptions such as placing signs and other information and education products directed to affect visitor behavior. BLM will provide services for people of all abilities by using diverse media and combining techniques to reach different learning styles, abilities, generations, ethnic groups, and cultures. This program will follow the National BLM Interpretive Strategy (BLM 1999) and do the following:

. Be thematic and use accepted professional interpretive principles.

. Be evaluated to measure effectiveness.

. Ensure that each resource message will be displayed effectively and harmonize with objectives for other resource management programs

. Collaborate with other groups such as BLM public affairs; neighboring public and state land managers; outfitters; guides; and cooperating associations, friend's groups, and foundations to provide information to diverse audiences.

. Determine the level and suitability of publicity, marketing, brochures, BLM website information, road signs, maps, and priority resource protection messages as they relate to the planning area's management objectives.

. Locate and compile basic information on safety and orientation and integrate this information with all resource management objectives and programs, such as recreation opportunities, grazing practices, and creek restoration projects. Methods and styles of communication such as brochures, web pages, signs, and other media selected can be informational, directional, interpretive, or authoritative messages that best minimize impacts to resources and enhance resource protection.

Table 2-19C
Primary Recreation Activities by Zone
Las Cienegas Resource Management Plan

Zone 1 Roaded Natural	**Zone 2** **Natural**	**Zone 3** **Backcountry**
Sightseeing Visiting historic sites Photography Camping Day use	Sightseeing Camping Visiting historic sites Viewing wildlife Photography Driving for pleasure Picnicking Hunting Equestrian activities Mountain biking	Sightseeing Camping Visiting historic sites Viewing wildlife Photography Driving for pleasure Picnicking Hunting Hiking Backpacking Solitude Equestrian activities Mountain biking

. Be led by an interpretive specialist or team. Trained interpretive specialists should develop the details of sign styles and exact text, with input from all resource specialists.

. **Maintenance Program**--~~The recreation program will use BLM's Facility Inventory Maintenance Management System (FIMMS) and integrate with the maintenance needs of other resource objective's to develop a recreation maintenance plan by 2002. Also integrated into FIMMS should be the maintaining of all signs and other infrastructure for motorized and non-motorized travel for all resource programs in this plan amendment. The recreation maintenance plan covers how to manage garbage, camping areas, water sources, barricades, parking areas, fences, trails, roads, and administrative sites. This plan also determines the degree of scheduled and corrective maintenance~~. A facility and inventory maintenance management program will be developed and modified using BLM's Facility Inventory Maintenance Management System (FIMMS) basic structure, however maintenance standards, levels and schedules will be locally defined. The overall maintenance program will integrate the maintenance needs and prescriptions for all resource programs.

An inventory and maintenance management program integrating Las Cienegas prescribed conditions for recreation zones, roads and their maintenance needs will be developed by 2004. This will include maintaining informational and regulatory road signs and other infrastructure within the NCA.. A recreation maintenance plan will also address trash removal, clean-up procedures and schedules. This plan also determines the degree of scheduled and corrective maintenance for water sources, restoration project components, barricades, parking areas, fences, trails, and administrative sites. Table 2-20 summarizes maintenance prescriptions for designated routes in the transportation system. Appendix 2 includes detailed descriptions of each maintenance level.

Mineral Resources Management Actions

. **Administrative Use of Mineral Materials**--BLM will use mineral materials such as clay, sand, gravel, and boulders for projects within the planning area. BLM expects to use no

Table 2-20 Route Maintenance Guidance by Zone, Las Cienegas Resource Management Plan

Zone	*Functional Class*[1] and Access Vehicle Types	Maintenance Level[2]	Road Width (ft)	Speed (mph)	Route Designation Highlights *(Review alternative Route Designations Maps for more details).*				Comments	Hiking, Horseback and Bicycle Trail Types
					Alt 1	Alt 2	Alt 3	Alt 4		
1 Roaded Natural	***Local***[3] all vehicle types	3	up to 20	25-35	900	900	900	900	main access road off Hwy 83 to Ranch Headquarters	native tread surface to non-native tread for interpretive trails
	Resource high clearance	2	10	10-15	see map				unimproved dirt side roads[4]	
	Resource high clearance or 4x4	2	-	-					administrative motorized use and open to non-motorized public use	
	Non-System	1	-	-		901B,907, 907B			routes to be closed and rehabilitated,	
2 Natural	***Local***[3] passenger vehicle, RV	3	14	15-25	900	900, 901, 902	900	900, 902	South Road - segment off Hwy 82	native tread surface,widths to be determined
	Resource hiking, biking, or horseback	2	To be determined	-				910B, 901B	non-motorized use year round	
	Resource high clearance	2	10	5-15					unimproved dirt side roads[4]	
	Non-System	1	-	-					routes to be closed and rehabilitated,	

Table 2-20 continued Route Maintenance Guidance by Zone, Las Cienegas Resource Management Plan

Zone	*Functional Class*[1] and Access Vehicle Types	Maintenance Level[2]	Road Width (ft)	Speed (mph)	Route Designation Highlights (Review alternative Route Designations Maps for more details).				Comments	Hiking, Horseback and Bicycle Trail Types
					Alt 1	Alt 2	Alt 3	Alt 4		
3 Back Country	***Resource*** high clearance, 4x4	2	10	5-15		916 segment, motorized seasonal use	916 loop motorized seasonal use		roads to group sites and other dirt side roads and roads which are seasonal use	native tread surface, widths to be determined
	Resource high clearance, 4x4	2	10, two track	-					administrative motorized use and open to non-motorized public use	
	Non-System	1	-	-	910B extension across creek	901B,907, 907B			routes to be closed and rehabilitated,	

[1]BLM Road terminology from BLM Manual Section 9113

Collector: These BLM roads normally provide primary access to large blocks of land and connect with a public road system. Highway 82, 82 are the collector roads within LCNCA.

Local: These BLM roads normally serve a smaller area than collectors. Local roads carry fewer traffic types. User cost, comfort, and travel time are secondary to construction and maintenance cost considerations.

Resource: These BLM roads normally are spur roads that provide point access and connect to local or collector roads. Use restrictions can be applied to prevent conflicts between users. Minimal consideration for user cost, comfort or travel time.

***Non-system*:**: Routes that will not be included in the LCNCA transportation system.

[2]Road Maintenance Levels :

Level 1 - No Maintenance: Roads no longer needed and closed to traffic. Closure devices maintained, drainage stabilized to protect adjacent lands and resource values.

Level 2 - Minimal Maintenance: Roads normally open seasonally or year-round and passable for high clearance or 4-wheel drive use. Drainage and grade inspected every 3 years and maintained to correct problems.

Level 3 - Maintenance as Needed: Roads open seasonally or year round. Typically natural or aggregate surfaced, but may include low-use bituminous surface, with defined cross-section and drainage. Generally passable by passenger car, but user comfort and convenience are not a high priority. Drainage inspected at least annually and maintained as needed. Grading conducted to provide a reasonable level of riding comfort.

Level 4 - Annual maintenance. Roads open all year, except may be closed or have limited access seasonally. Typically single or double lane, aggregate, or bituminous surface, with a higher volume of public traffic than administrative traffic. Roadway maintained at least annually, although a preventative maintenance program may be established. Problems repaired as discovered.

[3]Motorized use on primary access roads 900, 901, 902 require all vehicles to be currently licensed, insured and registered.

[4]Unimproved dirt side roads in Zones 1 and 2 transition to Zone 3 after 1/4 mile from intersection with roads 900, 901, 902.

~~more than 25,000 cubic yards of mineral materials for any one project.~~ **Surface disturbance from removal of the mineral material would be limited to one-half acre or less for each project**. Mineral materials will be used for road repair/maintenance, watershed improvement, and cultural restoration. Mineral materials will be extracted so as to avoid sensitive areas and minimize impacts. BLM will analyze impacts from administrative use of mineral materials on a case-by-case basis.

. **Casual Use of Mineral Materials**--~~Anyone who wishes to remove mineral materials for personal use must obtain a free use permit from the BLM Tucson Field Office. BLM will issue free use permits for up to 1 cubic yard of mineral materials. Permittees will be directed to washes in non-sensitive areas to collect their mineral material~~. Removal of mineral materials for personal or commercial use will not be permitted.

. **Rockhounding**--Rock collectors will follow BLM Arizona guidelines for collecting reasonable amounts of mineral specimens, rocks, ~~petrified wood, invertebrate fossils,~~ and semiprecious gemstones. These guidelines allow collecting specimens for noncommercial personal use,--up to 25 pounds **and one piece** per day not to exceed 250 pounds per year. **Mechanical means may not be used to remove rocks or mineral specimens. Collection of petrified wood or fossils (invertebrate or vertebrate) will not be permitted except where intended for legitimate scientific uses as described below.**

. **Scientific Collection--**Collection of paleontological resources and rocks will be allowed for legitimate scientific uses when covered by an approved research permit. Mechanical means may be used to remove rocks or mineral specimens for scientific collection subject to compliance with the National Environmental Policy Act.

Alternative 2 Livestock Grazing and Recreation Management Actions

Livestock Grazing Management Actions

Alternative 2 seeks to maximize livestock management responsiveness to changes in the annual vegetation production. Instead of fixed, established stocking rates on the public lands, stocking rates would be set annually in response to changes in total forage production, amount of forage available, and results of monitoring the health of the resource. This management is being practiced voluntarily on the Empire-Cienega allotment through the biological planning process and to some degree on the Empirita allotment.

As an example of how Alternative 2 would be implemented, Tables 2-21, 2-22, and 2-23 compare three different rates of possible annual production (favorable, normal, and unfavorable years) to the corresponding stocking rate that would be implemented as a result of that year's forage production on each of the allotments. The goal is to quickly respond to annual fluctuations in production by altering the stocking rate and livestock rotation. Actual stocking rates may be higher or lower than those shown in this example, depending on evaluation of resource conditions and monitoring data through the biological planning process. Also under Alternative 2, more livestock exclosures would be established to help monitor vegetation responses (See Tables 2-15 through 2-19).

Under Alternative 2, the stocking rate would vary with changes in vegetation production. Table 2-24 shows the total vegetation production in favorable, normal, and unfavorable years (based on rainfall) on all lands within each allotment. Also shown is the average amount of forage that livestock could consume on these lands with variable stocking rates. The ~~available~~ **useable** forage is assumed to be 50% of the total vegetation produced multiplied by the 35% utilization rate on lands allocated for livestock grazing. The percentage of ~~available~~ **useable** forage consumed remains fairly constant under this management strategy.

Table 2-21
Variable Grazing Use under Alternative 2, FAVORABLE YEAR[1] Example
Las Cienegas Resource Management Plan

Allotment	Total Acres Grazed	Total Production[2] Grazed Acres--Favorable Year (Million-lbs.)	Total Cows	BLM Acres Grazed	~~BLM~~ Cows on BLM (CYL[3])	ASLD Acres	~~ASLD~~ Cows on ASLD	Private Acres	Cows on Private ~~Cows~~
Empire	71,827	129.29	1,496	34,365	716	37,462	780	0	0
Empirita	24,468	29.36	367	1,000	15	23,468	352	0	0
Rose Tree	8,469	15.24	176	3,550	74	3,719	77	1,200	25
Vera Earl	1,240	2.16	25	1,240	26	0	N/A	N/A	N/A
Empire Mountains	3,044	3.65	46	2,000	30	0	0	1,044	16
TOTAL:	**109,048**	**179.71**	**2,110**	**42,155**	**861**	**64,649**	**1,209**	**2,244**	**41**

[1] The" favorable, normal, and unfavorable" years mainly reflect rainfall. This variable is used to show that production varies greatly in response to the amount and timing of precipitation and how different livestock stocking rates affect the amount of vegetation cover remaining to achieve the watershed and wildlife objectives in the plan. In a Favorable Year, the assumed average production is 1800 lbs/ac and 0 .25 AUM/ac on the Empire, Rose Tree, and Vera Earl ranches on the basis of NRCS Ecological Site Guides, and 1200 lbs/ac and 0.18 AUM/ac on the Empirita and Empire Mountain grazing units. In a Normal Year, the assumed average production is 1200 lbs/ac and 0.15 AUM/ac on the Empire, Rose Tree, and Vera Earl allotments based on NRCS Ecological Site Guides, and 800 lbs/ac and 0.12 AUM/ac on the Empirita and Empire Mountain grazing units. In an Unfavorable Year, the assumed average production is 800 lbs/ac and 0 .10 AUM/ac on the Empire, Rose Tree, and Vera Earl ranches on the basis of NRCS Ecological Site Guides, and 500 lbs/ac and 0.09 AUM/ac on the Empirita and Empire Mountain grazing units.
[2] Total vegetation production comes from the NRCS Ecological Site guides for "favorable, normal, and unfavorable" years and is provided in the site guides only for reference areas considered to have an excellent similarity correlation to the "Historic Climax Plant Community" for each ecological site. Production encompasses all forms of vegetation production, including trees and shrubs so cattle never use a certain amount of production. But production still provides a relative index of cover produced. The ~~available~~ **useable** forage is assumed to be 50% of the total forage produced multiplied by a 35% utilization rate on lands allocated for livestock grazing.
[3] CYL = Cattle year-long.

(Note that 50% is subtracted from the total production prior to applying the use limit. This provides for rangeland health by leaving the cover for watershed values).

Highlights of Alternative 2 Livestock Grazing Management

1. Four livestock operators would continue to lease public lands in the planning area on four individual grazing allotments (i.e., Empire-Cienega, Empirita, Rose Tree, and Vera Earl). In addition, BLM would establish a livestock grazing allotment in the Empire Mountains.

2. On each allotment a variable stocking rate with a flexible livestock rotation-selective rest-rotation strategy would be implemented. Alternative 2 would establish a variable stocking rate determined annually by an assessment of range conditions, including forage availability and biological monitoring through the biological planning process.

. On each allotment, forage utilization limits would be lowered from current limits as recommended by Holechek et al. (1999). Alternative 2 would implement a utilization limit of 30-40% of current

Table 2-22
Variable Grazing Use under Alternative 2, NORMAL YEAR Example
Las Cienegas Resource Management Plan

Allotment	Total Acres Grazed	Total Production Grazed Acres-Normal Year (Million-lbs.)	Total Cows	BLM Acres Grazed	~~BLM~~ Cows on BLM (CYL)	ASLD Acres	~~ASLD~~ Cows on ASLD (CYL)	Private Acres	Cows on Private ~~Cows~~ (CYL)
Empire	71,827	86.19	898	34,365	430	37,462	468	0	0
Empirita	24,468	19.57	245	1,000	10	23,468	235	0	0
Rose Tree	8,469	10.16	106	3,550	44	3,719	47	1,200	15
Vera Earl	1,240	1.49	16	1,240	16	0	N/A	N/A	N/A
Empire Mountains	3,044	2.44	30	2,000	20	0	0	1,044	10
TOTAL:	**109,048**	**119.85**	**1295**	**42,155**	**520**	**64,649**	**750**	**2,244**	**25**

Table 2-23
Variable Grazing Use under Alternative 2, UNFAVORABLE YEAR Example
Las Cienegas Resource Management Plan

Allotment	Total Acres Grazed	Total Production on Grazed Acres-Unfavorable Year (Million-lbs.)	Total Cows	BLM Acres Grazed	~~BLM~~ Cows on BLM (CYL)	ASLD Acres	~~ASLD~~ Cows on ASLD (CYL)	Private Acres	Private Cows
Empire	71,827	57.46	599	34,365	286	37,462	312	0	0
Empirita	24,468	12.23	184	1,000	8	23,468	176	0	0
Rose Tree	8,469	6.78	71	3,550	30	3,719	31	1,200	10
Vera Earl	1,240	0.99	10	1,240	10	0	0	N/A	N/A
Empire Mountains	3,044	1.52	23	2,000	15	0	0	1,044	8
TOTAL:	**109,048**	**78.98**	**887**	**42,155**	**349**	**64,649**	**519**	**2,244**	**18**

Table 2-24
Comparison of Vegetation Production Under Three Rainfall Regimes and Forage Consumption by Livestock Under Alternative 2 Livestock Management
Las Cienegas Resource Management Plan

	Total Acres Grazed	Total Cows	Total Production Grazed Acres (Million-lbs.)	Production Consumed By Total Cows (Million-lbs.)	% Total Production Consumed	~~Available~~ Useable[1] Forage (Million-lbs.)	% ~~Available~~ Useable Forage Consumed[2]
Favorable Year	109,048	2,110	179.71	20.26	11	31.45	64
Normal Year	109,048	1,295	119.85	12.43	10	20.97	60
Unfavorable Year	109,048	887	78.98	8.52	10	13.82	62

[1] Useable Forage = (TOTAL PRODUCTION x 0.5) x 35% Use Limit.
[2] LBS of Forage Consumed = # CYL x 800lbs./month x 12. A 35% use limit with variable stocking maintains herd consuming about 2/3 of the useable forage (not total production) during different years of production to leave a reserve for unexpected changes.

year's growth on key perennial grass species and assure that the physiological requirements of plant growth, rest, and reproduction are met for the following key species:

Perennial Grasses:
Plains Lovegrass (ERIN)
Sideoats Grama (BOCU)
Cane Beardgrass (BOBA3)
Vine Mesquite (PAOB)
Blue Grama (BOGR)
Black Grama (BOER4)
Hairy Grama (BOHI2)
Sprucetop Grama (BOCH)
Plains Bristlegrass (SE~~LE2~~MA)
Wooly Bunchgrass (ELBA)
Green Sprangletop (LEDU)
Arizona Cottontop (DICA8)
Crinkleawn (TRMO)
Bush Muhly (MUPO2)
Prairie Junegrass (KOCR)

The maximum number of cattle authorized would need to be within the utilization limit of 30 to 40 % in a favorable, normal, or unfavorable years. The use will be based on the weight of the current years production on the primary forage species identified in key study areas (at a minimum the permanent study sites already established). BLM will attempt to identify the utilization patterns across the entire unit or area being used. Use would be measured about the time cattle are moved from the unit or when the current use level is felt to be near that desired limit. The guidelines for identifying the key monitoring areas would be based on the size and location of the unit being used (usually only a portion of a single pasture is used based on which primary waters are being used and the topography and season of use the unit is being grazed). There may be several units of usability within a pasture. Generally, these units average 250 to 500 acres and are used by the main herd for a period of a couple of weeks. Normally, use will be measured one-third to one-half mile from the primary water. The Grazed-Class photo guide method as identified by the University of Arizona will be used and a photograph taken to "show" the conditions measured. When the desired use levels are reached, cattle will be moved to the next unit.

4. The biological planning process would be expanded and formalized on the Empire-Cienega allotment and similar biological planning processes would begin for the other

allotments. The biological planning processes will have the following structure:

- *Biological Planning Process Structure-* The key to the variable stocking rate and flexible pasture rotation management approach is: (1) to have a variety of options for any planned grazing rotations, and (2) to be able to quickly change from the plan when range conditions or livestock needs differ from that expected.

  Under the Biological Planning Process, the Biological Planning Team helps the BLM review the monitoring data and provides input into proposed actions. The BLM Field Manager will make any necessary administrative decisions relating to the grazing program after review of existing data and after consultation and coordination with the Biological Planning Team and other interested agencies and public. The BLM will explore having the Tucson Field Manager request that the Biological Planning Team be established as a separate Rangeland Resource Team (RRT) operating under the auspices of the Arizona Resource Advisory Council (RAC) as provided for in 43 CFR 4100.

  The Biological Planning Team would establish subcommittees as needed to address specific issues that might come up. Standing subcommittees would include a technical monitoring subcommittee to oversee the selection, collection, and analysis of monitoring data for input into the Biological Planning process and a recreation subcommittee to work on recreation related issues.

- ~~Components~~ ***Participants***--The Biological Planning team consists of a balance between resource managers, resource users, and those concerned with the resource's proper management.

  Participants include representatives of the following:

  a. Land ownership (BLM, Arizona State Land Department, U.S. Forest Service, Audubon Society, private owners, and the Natural Resources Conservation Service).

  b. Permitted uses (grazing lessees and recreation groups).

  c. Research efforts (USDA Agricultural Research Service, University of Arizona, and Arizona State University).

  d. Wildlife management needs and concerns (Arizona Game and Fish Department., and the U.S. Fish and Wildlife Service).

  e. Environmental interests and public concerns.

- Actions--The team will meet at least twice a year (in March or April before the spring growing season and in September following the monsoon rains) to do the following:

  a. Determine the current health and trend of the resource.

  b. Evaluate monitoring data:
  Precipitation
  Rangeland ecological site (range) condition
  Riparian and aquatic condition
  Vegetation trends
  Vegetation utilization
  Soil cover
  Wildlife populations and habitats
  Livestock pasture use records
  Livestock pasture recovery (new production)
  Recreation post-use reports

c. Evaluate proposed grazing and recreation actions in light of the objectives in this plan and current resource conditions or concerns.

d. Recommend decisions to management on the following:

- Annually authorize livestock grazing (conditions incorporated in grazing bill on numbers, pasture and water use, and rotation).

- Change recreation authorizations or site uses.

5. The interim grazing plan for the Empire-Cienega allotment (BLM 1995) and the Coordinated Grazing Management Plan for the Empirita allotment would be modified to incorporate the goals, objectives, and actions in this plan. BLM would develop grazing management plans for the Rose Tree, Vera Earl, and Empire Mountains allotments.

6. BLM would develop more exclosures on allotments and monitor these non-grazed lands to determine the effects of grazing and rest on habitats and would authorize livestock grazing in these riparian pastures and exclosures **only at designated livestock crossing lanes and watering areas** or to meet a resource objective.

Empire-Cienega Allotment (#6090)--Alternative 2 Proposed Management

Summary of RMP-~~Level~~ Proposal

Under Alternative 2, BLM would allocate **up to 8,448 AUMs of** livestock forage on **about** 34,365 acres of public land within the Empire-Cienega allotment (# 6090) and would continue to sublease livestock grazing on the 37,462 acres of State Trust Lands leased to BLM. **The actual number of AUMs of forage used annually would vary due to the flexible stocking in association with the Biological Planning Process described in the summary of Empire-Cienega Grazing Management below**. About 2,319 acres (6%) of the BLM lands would be excluded from livestock grazing as vegetation study areas. **The exact number of excluded acres may vary depending on the number, size, and location of study exclosures which will be developed to help evaluate the effectiveness of grazing management**.

~~Activity Plan Proposal~~
Livestock Management Actions

Under Alternative 2, BLM would manage the Empire-Cienega Planning Area almost the same as it does now--a variable stocking rate with flexible livestock rotation-selective rest-rotation strategy. The main difference is that no livestock numbers would be established through a long-term lease agreement. Numbers would be established annually in response to rangeland health and through the Biological Planning Process. In addition, the proposed management would exclude more acreage from livestock grazing and would emphasize monitoring both grazed and non-grazed lands to determine the effects of grazing and rest on habitats. The biological planning process would still be the key. BLM would annually allocate livestock forage in response to the health of the resource, as determined by the assessment and evaluation of the monitoring data by the Biological Planning Team.

Summary of Empire-Cienega Grazing Management

1. Establish a formal process through the Biological Planning Team to determine the annual authorized use (which has averaged 1,037 cattle year-long (range of 662-1436) on the entire allotment at 49% public land use). Licensed use would be based on the number of cattle year-long on the entire allotment at 48% BLM public land use.

2. Modify the biological planning process as described above. Expand the process to include wildlife, grazing, and recreation issues. Modify the current interim grazing management plan to incorporate these changes.

3. Modify the current interim grazing management plan to incorporate flexible stocking rates determined annually by an assessment of range conditions and biological monitoring through the modified biological planning process. Alternative 2 would also develop the range improvement projects proposed for Alternative 1. **Additional range improvements may be proposed and constructed in the future based on results of ecological monitoring and/or livestock management needs**.

4. Modify the current interim grazing management plan to reduce utilization to 30-40% of current year's growth on key perennial grasses as described in the Alternative 2 summary.

5. Modify the current interim grazing plan to establish study exclosures on the 2,319 acres of public lands not allocated to livestock grazing. Monitor these non-grazed lands to determine the effects of grazing and rest on habitats.

6. Continue to implement the following measures to protect populations of Gila topminnow and topminnow habitat from grazing impacts:

    . Limit livestock use in riparian areas of Cienega Creek, Mattie Canyon, and Empire Gulch with perennial water to the crossing lanes and watering areas listed in Table 2-25 and areas where BLM, through the biological planning process, determines a need to use livestock grazing as a management tool to meet a riparian or aquatic-related resource objective.

    . Rotate use of crossing lanes and move cattle through them within 21 days.P

    . Phase out water gaps in areas where adjacent upland waters are developed **(Map 2-26A)**.

    . Inspect and maintain riparian exclosure fences at least ~~twice~~ **once** annually **just prior to use of lands adjacent to the exclosures**.

    . Locate all new repressos (i.e., earthen stock ponds) to minimize the likelihood of floods or humans moving exotic fish and bullfrogs into topminnow habitat.

    . Use repressos only when required to water cattle and allow repressos to dry when no longer needed to water cattle. Drain repressos if they do not dry annually. **The BLM would be responsible for any required draining of repressos not related to the livestock operation**.

    . Monitor the fish community and habitat, including crossing lanes, grazed riparian zones and repressos to document the level of incidental take and to check for introduction of exotic fish and bullfrog.

    h. Develop mitigation plans in coordination with the Fish and Wildlife Service for range improvements and vegetation treatments which may harm the topminnow or its habitat.

7. Continue to implement the following measures to protect the Southwestern willow flycatcher and its habitat from grazing impacts:

. Exclude livestock grazing from occupied or unsurveyed, suitable habitat during the Southwestern willow flycatcher breeding season (April 1-September 1) with the exception of crossing lanes.

. Do not authorize livestock management activities, including development of range improvements, in the riparian zone of unsurveyed, suitable or occupied willow flycatcher habitat during the willow flycatcher breeding season.

. Locate any new livestock management facilities likely to attract and support cowbirds more than five miles from occupied, suitable, or potential flycatcher habitat, unless such facilities are crucial to protecting riparian habitat, and cowbird trapping is implemented to counteract the effect of the facility.

8. Adjust livestock grazing rotation and utilization and develop more fencing, as needed, to meet watershed cover required in the upland vegetation objective.

9. Adjust livestock grazing rotation and utilization and develop more fencing, as needed, to leave enough cover after the summer livestock rotation to meet cover needs for pronghorn fawning as described in the pronghorn habitat objective (Upland Wildlife Habitat Sub-Objective B).

10. Adjust grazing rotation by developing a North-South Hilton pasture fence to ensure adequate cover for grassland sparrows as defined in the grassland sparrow sub-objective (Upland Wildlife Habitat Sub-Objective A).

Empirita Allotment (#6210)--
Alternative 2 Proposed Management

Summary of RMP Proposal
Under Alternative 2, BLM would allocate 288 AUMs of livestock grazing forage on 1,000 of the 1,520 acres of public lands and continue to

Table 2-25
Livestock Crossing Lanes and Watering Areas, Empire-Cienega Allotment

Crossing Lane	Legal Location[1]	Type	Pasture
Upper Empire Gulch	T.18S, R.17E, Sec. 17	Crossing Lane	Empire/Orchard
Headwaters	T.19S, R.17E, Sec. 15	Crossing Lane	5 Wire, Hilton Sacaton
Gardner	T. 19S, R. 17E, Sec. 10	Crossing Lane	500 Acre, 5 Wire
EC-900 Old Road Crossing (Hardened)	T. 18S, R. 17E, Sec. 35	Crossing Lane	Mac's Sacaton, North
~~Sam's~~	~~T. 18S, R. 17E, Sec. 26~~		~~North, Ag. Fields~~
49 ~~Lane~~ (A & B Gaps)	T. 18S, R. 17E, Sec. 2	Watering Area/Crossing Area	Mac's Sacaton, Lower 49
Fresno	T. 18S, R. 17E, Sec. 23	Crossing Lane	Fresno, 49, Rockhouse
Dominguez	T. 18S, R. 17E, Sec. 13	Crossing Lane	Rockhouse, Fresno
Dominguez -Narrows	T.18S, R.17E, Sec.12 & 13 T.18S, R.18E, Sec. 6 & 7	Watering Area - Winter Use Only	Rockhouse, A3, Apache

[1]Crossing lane locations may be adjusted in the future based on ecological monitoring or if needed to improve livestock management.

Map 2-26A
Livestock Crossing Lanes

sublease the 23,468 acres of State Trust lands under grazing lease (05-437) to the Parsons Company. **The actual number of AUMs of forage used annually would vary due to the flexible stocking in association with the Biological Planning Process described in the** summary of Empire-Cienega Grazing Management above. A total of 520 acres (34%) of public lands within the Empirita allotment (#6210) would be excluded from grazing to study the effects of grazing. **The exact number of excluded acres may vary depending on the number, size, and location of study exclosures which will be developed to help evaluate the effectiveness of grazing management**.

Summary of Empirita Grazing Management

1. Change the grazing strategy to a variable stocking rate with a flexible livestock rotation-selective rest-rotation strategy.

2. Establish a formal process through the Biological Planning Team to determine the annual authorized use (that has averaged 80 to 337 cattle year-long on the entire allotment at 3% public land use).

3. Implement the biological planning process on the Empirita allotment as described above. Allocate livestock forage yearly in response to the health and productivity of the resource, as determined by the Biological Planning Team's evaluation of the monitoring data. This stocking rate would be determined annually by assessing range conditions and biological monitoring through the biological planning process. Flexible rotation is based on current resource conditions and objectives and uses the biological planning process to provide input into seasonal decision making.

4. Modify the grazing management plan to incorporate flexible stocking rates, the biological planning process, and the building of fencing and water developments to develop riparian pastures at the Narrows and around Nogales Spring. The other range improvements proposed for Alternative 1 would also be developed under Alternative 2. **Additional range improvements may be proposed and constructed in the future based on results of ecological monitoring and/or livestock management needs**.

5. Modify the grazing management plan to reduce utilization to 30-40% of current year's growth on key perennial grass species as described in the Alternative 2 summary above.

6. Establish study exclosures on the 520 acres of public lands not allocated to livestock grazing. Monitor these non-grazed lands to determine the effects of grazing and rest on habitats.

7. Implement the following measures to protect Gila topminnow and topminnow habitat from grazing impacts:

   a. Limit livestock use in riparian areas of Cienega Creek and Nogales Springs with perennial water to the Narrows crossing lane and watering area (T. 18S, R. 18E, Sec. 3) and areas where BLM, through the biological planning process, determines a need to use livestock grazing as a management tool to meet a riparian or aquatic-related resource objective.

   b. Rotate use of crossing lanes and move cattle through them within 21 days.

   c. Phase out water gaps in areas where adjacent upland waters are developed.

   d. Inspect and maintain riparian exclosure fences at least ~~twice~~ **once** annually **just prior to use of lands adjacent to the exclosures**.

   e. Locate all new repressos (i.e., earthen stock ponds) to minimize the likelihood of floods or humans moving exotic fish and bullfrogs into topminnow habitat.

f. Use repressos only when required to water cattle and allow repressos to dry when no longer needed to water cattle. Drain repressos if they do not dry annually. **The BLM would be responsible for any required draining of repressos not related to the livestock operation.**

g. Monitor the fish community and habitat including crossing lanes, grazed riparian zones, and repressos to document the level of incidental take and to check for introduction of exotic fish and bullfrogs.

h. Develop mitigation plans in coordination with the Fish and Wildlife Service for range improvements and vegetation treatments that may harm the topminnow or its habitat.

8. Continue to implement the following measures to protect the Southwestern willow flycatcher and its habitat from grazing impacts:

   a. Exclude livestock grazing from occupied or unsurveyed, suitable habitat during the Southwestern willow flycatcher breeding season (April 1-September 1), except for crossing lanes.

   b. Do not authorize livestock management activities, including development of range improvements, in the riparian zone of unsurveyed, suitable or occupied willow flycatcher habitat during the willow flycatcher breeding season.

   c. Locate any new livestock management facilities likely to attract and support cowbirds more than five miles from occupied, suitable, or potential flycatcher habitat unless such facilities are crucial to protecting riparian habitat and cowbird trapping is implemented to counteract the effect of the facility.

Rose Tree Allotment (#6043)--
Alternative 2 Proposed Management

Summary of RMP-~~Level~~ Proposal

Under Alternative 2, BLM would allocate **1104 AUMS of** livestock grazing forage on 3,550 acres of the 3,950 acres of public lands within the Rose Tree allotment (#6043) and exclude 400 acres (7%) from livestock grazing to study the effects of grazing. The allotment also includes 3,719 acres of State Trust lands and 1,200 acres of private lands, which the livestock operator would continue to **use** for grazing. **The actual number of AUMs of forage used annually would vary due to the flexible stocking in association with the Biological Planning Process described in the summary of Empire-Cienega Grazing Management above. The exact number of excluded acres may vary depending on the number, size, and location of study exclosures which will be developed to help evaluate the effectiveness of grazing management.**

Summary of Rose Tree Grazing Management

1. Change the grazing strategy to a variable stocking rate with a flexible livestock rotation-selective rest-rotation strategy.

2. Establish a formal process through the Biological Planning Team to determine the annual authorized use (that has varied from 100-200 animal units on a year-long basis). Licensed use would be based on the number of cattle year-long on the entire allotment at 42% BLM public land use.

3. Implement the biological planning process on the Rose Tree allotment as described above. Allocate livestock forage yearly in response to the health and productivity of the resource, as determined by the Biological Planning Team's evaluation of the monitoring data. The team would determine stocking rates annually by assessing range conditions and biological monitoring through the biological planning process. Flexible rotation is based on current resource conditions and objectives

and uses the biological planning process to provide input into seasonal decision making.

4. Conduct an ecological site inventory to evaluate current vegetation conditions to compare to the upland vegetation objective.

5. Develop a grazing management plan that incorporates flexible stocking rates, the biological planning process, and any other range improvements needed to meet resource objectives.

6. Reduce the utilization limit to 30-40% of current year's growth on key perennial grass species as described in the Alternative 2 summary above.

7. Adjust livestock grazing rotation and utilization and develop more fencing as needed to achieve watershed cover required in the upland vegetation objective.

8. Adjust livestock grazing rotation and utilization and develop more fencing, as needed, to leave enough cover after the summer livestock rotation to meet cover needs for pronghorn fawning as described in the pronghorn habitat objective (Upland Wildlife Habitat Sub-Objective B) and to ensure adequate cover for grassland sparrows as defined in the grassland sparrow sub-objective (Upland Wildlife Habitat Sub-Objective A).

9. Establish study exclosures on the 400 acres of public lands not allocated to livestock grazing. Monitor these non-grazed lands to determine the effects of grazing and rest on habitats.

Vera Earl Allotment (#6129)--
Alternative 2 Proposed Management

Summary of RMP-~~Level~~ Proposal
Under Alternative 2, BLM would allocate **324 AUMs of** livestock grazing forage on 1,240 acres of the 1,440 acres of public lands on the Vera Earl allotment (#6129) and exclude 200 acres (14%) from livestock grazing. **The actual number of AUMs of forage used annually would vary due to the flexible stocking in association with the Biological Planning Process described in the summary of Empire-Cienega Grazing Management above. The exact number of excluded acres may vary depending on the number, size, and location of study exclosures which will be developed to help evaluate the effectiveness of grazing management.**

Summary of Vera Earl Grazing Management
1. Change the grazing strategy to a variable stocking rate with a flexible livestock rotation-selective rest-rotation strategy.

2. Establish a formal process through the Biological Planning Team to determine the annual authorized use (that has been 27 animal units on a year-long basis on the BLM portion of the allotment only-100% BLM). Licensed use would be based on the number of cattle year-long on the entire allotment at 5% BLM public land use.

3. If the operator chose, licensed use could also be based on the number of cattle year-long on the entire allotment at 10% BLM public land use. The current stocking rate is 27 CYL on the BLM portion of the allotment (100% public land use). On the entire allotment, the authorized use is about 282 CYL at 10% public land use = 338 AUMs. The other lands include USFS and about 6,000 acres of private lands owned by the estate of Bettie A. Beck.

4. Implement the biological planning process on the Vera Earl allotment as described above. Allocate livestock forage yearly in response to the health and productivity of the resource, as determined by the Biological Planning Team's evaluation of the monitoring data. The team would determine this stocking rate by assessing range conditions and biological monitoring through the biological planning process.

The flexible rotation is based on current resource conditions and objectives and uses the biological planning process to provide input into seasonal decision making.

5. Conduct an ecological site inventory to evaluate current vegetation conditions to compare to the upland vegetation objective.

6. Develop a grazing management plan that incorporates flexible stocking rates, the biological planning process, and any other range improvements needed to meet resource objectives.

7. Reduce the utilization limit to 30-40% of current year's growth on key perennial grass species as described in the Alternative 2 summary above.

8. Adjust livestock grazing rotation and utilization and develop more fencing, as needed, to achieve watershed cover required by the upland vegetation objective.

9. Adjust livestock grazing rotation and utilization and develop more fencing, as needed, to leave enough cover after the summer livestock rotation to meet cover needs for pronghorn fawning as described in the pronghorn habitat objective (Upland Wildlife Habitat Sub-Objective B) and to ensure adequate cover for grassland sparrows as defined in the grassland sparrow sub-objective (Upland Wildlife Habitat Sub-Objective A).

10. Establish study exclosures on the 200 acres of public lands not allocated to livestock grazing. Monitor these non-grazed lands to determine the effects of grazing and rest on habitats.

Empire Mountains Allotment--
Alternative 2 Proposed Management

Summary of RMP-~~Level~~ Proposal
Under Alternative 2, BLM would allocate 360 AUMs of livestock grazing forage on 2,000 acres of the 2,480 acres of public lands in the Empire Mountains and include 480 acres in livestock exclosures. A new grazing allotment would be created. The grazing allotment could also include about 4,000 acres of private lands leased by the grazing operator for grazing.

The actual number of AUMs of forage used annually would vary due to the flexible stocking in association with the Biological Planning Process described in the summary of Empire-Cienega Grazing Management above. The exact number of excluded acres may vary depending on the number, size, and location of study exclosures which will be developed to help evaluate the effectiveness of grazing management. The allotment would not be activated until the prerequisites described in the livestock management actions section below are completed. If the allotment is not activated within five years of the date of the Record of Decision on this plan, then the BLM would reassess the situation and consider reallocating the forage to watershed and other uses.

Summary of Empire Mountains Grazing Management
Prior to authorization of any active livestock use on the new Empire Mountains allotment, the grazing lessee would be required to submit a proposed Allotment Management Plan developed with full cooperation of the private land owners within the allotment boundary. The plan must include necessary water and pasture development to provide adequate yearly rest for rangeland health. The plan must also include executed leases for grazing use of private lands and easements for fences, waters, and livestock ingress and egress. An economic analysis would be required showing sources and time frames for funding of the necessary infrastructure. An environmental analysis and biological assessment on the plan would also be required including completion of an ecological site inventory. The completed plan would be reviewed by the biological planning team (or Rangeland Resource Team), other interested public, and approved by the BLM. The following steps must be completed before the allotment can be activated:

1. Conduct an ecological site inventory to evaluate current vegetation conditions to compare to the upland vegetation objective and to help establish an initial stocking rate.

2. Develop a community-based grazing management plan that incorporates flexible stocking rates and rotation, the biological planning process, and any range improvements needed to meet resource objectives and manage livestock.

. **Secure necessary executed leases for grazing use of private lands and easements for fences, waters, and livestock ingress and egress.**

. **Complete necessary economic, environmental analysis and biological assessment.**

. Build any needed range improvements, **including water and pasture development,** and complete the plan with community approval before stocking any livestock on allotment.

. Establish a Biological Planning Team and a formal process through this team to determine annual authorized use.

. Establish a utilization limit of 30-40% of current year's growth on key perennial grass species as described in the Alternative 2 summary above.

. Establish study exclosures on the 400 acres of public land not allocated to livestock grazing. Monitor these non-grazed lands to determine the effects of grazing and rest on habitats.

Recreation Management Actions

Non-Motorized Trails

Under Alternative 2, designation of an additional non-motorized loop trail is proposed in North and Oak Tree Canyons (Map 2-27). The trail begins and ends at the Air Strip day use area. The proposed trail route crosses about three miles of public land and also crosses several miles of State Trust and Forest Service lands. The route for the return segment of the trail (about 1.5 miles) will be coordinated with the route for the Oak Tree Canyon portion of the Arizona Trail so as not to duplicate trails in this area. For the trail to be implemented, a right-of-way must be obtained from the Arizona State Land Department and approval for the trail location and development on Forest Service lands would also need to be obtained. ~~The Southern Arizona Mountain Bike Association (SAMBA) proposed the route. and has expressed interest in pursuing the right-of-way and necessary approvals for development~~.

Management within Recreation Zones

Managing visitor use impacts within recreation zones is an important part of maintaining the quality of the desired recreation opportunity settings included in the resource management plan (RMP) ~~level~~ proposals. Table 2-26 summarizes the management prescriptions for each recreation zone (See Maps 2-7, 2-14, and 2-19). BLM would apply these prescriptions, regardless of the different zone configurations under different alternatives. In addition to these prescriptions, BLM is proposing a step-down approach to managing visitor use impacts.

The first step would be to begin or increase visitor awareness or education. This more light-handed approach may in many instances be enough to reverse downward trends in resource conditions, including the decline in quality of recreational settings., Visitor education would incorporate existing national programs such as Leave No Trace and Tread Lightly. An important part of the education and awareness step would be to develop partnerships with user groups to help with education and visitor awareness. If education is unsuccessful, BLM might apply more heavy-handed approaches to reverse downward trends. Such approaches might include restrictions and regulations. BLM could also use partnerships to help with monitoring and rehabilitation.

Map 2-27
Alternative 2 - ~~SAMBA~~ North Canyon Trail Route

Table 2-26
Recreation Management Zones, Empire-Cienega Planning Area

Factors Influencing Recreation Experience Opportunities	ZONE 0 Rural	ZONE 1 Roaded Natural	ZONE 2 Natural	ZONE 3 Backcountry ~~Semi-Primitive~~	ZONE 4 Primitive ~~Wilderness~~
Zone Descriptions	**Zone 0** consists of the developed communities in the Sonoita Valley offering small-town amenities and activities.	**Zone 1** offers easy access with some interpretive and educational facilities. It generally consists of day use with no public camping. Motorized traffic is directed to use designated parking, pullouts, and loop drive. **Zone Highlights:** * Sightseeing drive * High visitor concentration * No camping	**Zone 2** offers moderate access with infrequent road maintenance and designated camping, parking, and pullouts **Zone Highlights:** * Sightseeing drive * Medium visitor concentration * Designated camping	**Zone 3** offers a low concentration of visitors and predominantly natural environment. Minimum on-site controls are present, but subtle. Zone has limited signage and dispersed recreation opportunities. **Zone Highlights:** *Low visitor concentration *Dispersed camping	**Zone 4** offers a high solitude experience with low interaction among visitors. Restrictions and controls not evident after entry (Santa Ritas and Whetstone (not BLM). **Zone Highlights:** * Low visitor concentration * Non-motorized travel * Dispersed backpack camping
1. Difficulty Rating	Elementary	Elementary	Easy	Difficult	Advanced
2. Vehicle Recommendations	▸ All types	▸ RV ▸ Sedan ▸ Van ▸ No clearance requirements ▸ Touring motorcycle ▸ Mountain bike ▸ Horse trailers	▸ Sedan (on selected roads during good weather) ▸ Sport utility vehicle ▸ Moderate clearance needed ▸ Touring motorcycle ▸ Mountain bike ▸ Horse trailers	▸ 2WD in most areas ▸ High clearance needed ▸ 4WD/ATV in some areas ▸ Enduro/dirt motorcycle ▸ Mountain bike ▸ Horse trailers	▸ Generally non-motorized ▸ 4WD/ATV in some areas (limited access) ▸ Dirt motorcycle (limited access) ▸ Mountain bike/limited access)

Table 2-26, continued
Recreation Management Zones, Empire-Cienega Planning Area

Factors Influencing Recreation Experience Opportunities	ZONE 0 Rural	ZONE 1 Roaded Natural	ZONE 2 Natural	ZONE 3 Backcountry ~~Semi-Primitive~~	ZONE 4 Primitive ~~Wilderness~~
3. Primary Recreational Activities	▸ Small town amenities ▸ Sightseeing ▸ Wine tasting ▸ Scenic tours ▸ Town activities	▸ Sightseeing ▸ Visiting historic sites ▸ Photography ▸ Camping ▸ Day use	▸ Sightseeing ▸ Camping ▸ Visiting historic sites ▸ Viewing wildlife ▸ Photography ▸ Driving for pleasure ▸ Picnicking ▸ Hunting ▸ Equestrian activities ▸ Mountain biking	▸ Sightseeing ▸ Camping ▸ Visiting historic sites ▸ Viewing wildlife ▸ Photography ▸ Driving for pleasure ▸ Picnicking ▸ Hunting ▸ Hiking ▸ Backpacking ▸ Solitude ▸ Equestrian activities ▸ Mountain biking	▸ Sightseeing ▸ Camping ▸ Viewing wildlife ▸ Photography ▸ Hunting ▸ Hiking ▸ Backpacking ▸ Solitude ▸ Equestrian activities
4. Time Investment	▸ 1 hour to ¾ day	▸ 1 hour to ½ day	▸ ½ day to 1 day	▸ 1 or more days	▸ 1 or more days
5. Degree of Solitude	▸ Low	▸ Low	▸ Moderate	▸ Excellent	▸ Outstanding
6. Map Reading Skills Needed	▸ Low	▸ Low	▸ Moderate	▸ Moderate/High	▸ High
7. Survival Skills Needed	▸ Little	▸ Little	▸ Some	▸ Moderate	▸ High
8. Likelihood of Getting Lost if Unprepared	▸ Little	▸ Little	▸ Slight	▸ Moderate	▸ High
9. Likelihood of Getting Help if Stranded	▸ Very High	▸ High	▸ Moderate	▸ Low	▸ Very Low
10. Probable Waiting Time for First Contact with Another Party	▸ Less than 30 minutes	▸ 30 minutes	▸ 30 minutes to 1 hour	▸ Several hours to several days	▸ Several hours to several days

Table 2-26, continued
Recreation Management Zones, Empire-Cienega Planning Area

Factors Influencing Recreation Experience Opportunities	ZONE 0 Rural	ZONE 1 Roaded Natural	ZONE 2 Natural	ZONE 3 Backcountry ~~Semi-Primitive~~	ZONE 4 Primitive ~~Wilderness~~
11. Probable Waiting Time for Summoned Help to Arrive	▸ Less than 30 minutes	▸ 1 hour	▸ 2 hours	▸ 4-6 hours	▸ 6+ hours
12. Availability of Drinking Water	▸ Yes	▸ Yes	▸ No	▸ No	▸ No
13. Availability of Gasoline	▸ Yes	▸ No	▸ No	▸ No	▸ No
14. Accommodations (i.e. Motel, Hookups)	▸ Yes	▸ No	▸ No	▸ No	▸ No
15. Groceries/Eating Places	▸ Yes	▸ No	▸ No	▸ No	▸ No
16. Typical Road Type	▸ County maintained roads, paved.	▸ Improved gravel or dirt, frequent, moderate to high maintenance	▸ Improved gravel or dirt, infrequent, low maintenance	▸ Unmaintained or not present	▸ Unmaintained or not present
17. Range of Typical Road Types	▸ Good	▸ Good to muddy/impassable	▸ Good to muddy/impassable	▸ Fair to impassable	▸ No roads to very poor
18. Level of Informational, Directional, or Interpretive Signage	▸ Abundant	▸ Abundant	▸ Frequent	▸ Occasional	▸ Rare
19. Available BLM Informational Flyers, Brochures, etc.	▸ Some	▸ Abundant	▸ Some	▸ Few	▸ Rare
20. Visitor Centers, Interpretive Sites	▸ Some	▸ Yes	▸ Some	▸ No	▸ No

Table 2-26, continued
Recreation Management Zones, Empire-Cienega Planning Area

Factors Influencing Recreation Experience Opportunities		ZONE 0 Rural	ZONE 1 Roaded Natural	ZONE 2 Natural	ZONE 3 Backcountry ~~Semi-Primitive~~	ZONE 4 Primitive ~~Wilderness~~
21.	Designated Picnic Areas	▸ Yes	▸ Yes	▸ Yes	▸ Yes	▸ No
22.	Designated Camping Areas	▸ Yes	▸ No	▸ Yes	▸ Yes	▸ No
23.	Dispersed Camping	▸ No	▸ No	▸ Yes	▸ Yes	▸ Yes
24.	Group Sites	▸ Yes	▸ Yes ▸ Seasonal	▸ Yes ▸ Seasonal	▸ Yes ▸ Seasonal	▸ No
25.	Designated Pullouts	▸ Yes	▸ Yes	▸ Few	▸ Few	▸ No
26.	Designate Speed Limits not to exceed 25 mph unless otherwise posted	▸ N/A	▸ Yes	▸ Yes	▸ Yes	▸ N/A
27.	Distance Allowed to Drive Vehicle Off Road to Park	▸ N/A	▸ Use pull outs only	▸ Use pull outs only	▸ No more than 25 feet	▸ N/A

Management of Designated Recreation Sites
The following are general management prescriptions for each type of designated recreation site:
(Common to Alternatives 2, 3, and 4)

Designated Group Sites
Group sites are open for group use only on a reservation basis and under a special recreation permit. Group sites will generally *not* be open to use by individuals if not reserved by a group. BLM will determine the capacity of a group site and length of a single event at such a site, depending on the type of activity and resource concerns. Special stipulations will be attached to group activities at these sites through the special recreation permit process. BLM may seasonally or temporarily close group sites in response to resource conditions or other concerns. Any improvements or developments at the sites must conform to the overall management prescription for the zone in which the site occurs. Permit holders may bring in portable improvements, but must remove these at the close of the event. BLM would monitor impacts from group sites to determine if it needs to adjust the site management.

Designated Camp Areas
The designated camping areas would all have similar management prescriptions. These areas would be open for individual, but not group use (groups are defined as more than 29 people). The capacity of each camping area is expected to be less than 30 people. The most vehicles allowed on each individual site within the camping area would vary, depending on the site. Some sites would be limited to one vehicle. Other sites would be suitable for four to five vehicles. BLM would restrict the type of activity to camping and limit proposed development in each camping area to posting site numbers, erecting barriers of natural materials, if needed, and placing signs, which would be kept to a minimum. BLM proposes no other development and may seasonally close any of these sites in response to resource conditions. The Road Canyon site would be closed during pronghorn fawning season (April-June).

The Oak Tree designated camping area has a few special stipulations. Proposed development of this area would consist of creating designated camping sites and parking spots that would prevent people from parking under oak trees. To deter campers from building fires under the oaks, BLM would establish fire rings away from the trees and erect vehicle barriers. BLM would also post educational signs to inform visitors about oak tree ecology and how parked cars and campfires harm the oaks.

Pullouts
Pullouts will consist of widened areas along roadways. They will be marked, if necessary, with signing and barriers of natural materials. The pullouts will be designed for vehicles to turn around in or for three to five vehicles to park in. Camping will not be permitted at pullouts.

Designated Recreation Sites
Under Alternative 2, BLM would establish three designated group sites (Maternity Well, Air Strip, and Agricultural Fields), four designated camp areas (Oak Tree, Cieneguita, Oil Well, and Road Canyon), and at least 11 pullouts (Map 2-28).

Table 2-27 compares the ~~activity plan proposals~~ **management actions** for recreation among the alternatives. Under Alternative 2, the capacity for the following group sites (general guidance only) are as follows:

- **Maternity Well**: 150 people or 30 vehicles with horse trailers or recreational vehicles.
- **Air Strip**: 500 people (combination of day use and group use areas). The vehicle capacity in the day use/trailhead area is 30 vehicles.

Map 2-28

Alternative 2–Designated Recreation Sites

Table 2-27. Comparison of Recreation Alternative-- ~~Activity Plan Level~~ Management Actions
Las Cienegas Resource Management Plan

Implementation Issue	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4
Designated Group Sites	None	3: Maternity Well, Air Strip, and Agricultural Fields	5: Maternity Well, Air Strip, Agricultural Fields, Road Canyon, and Hilton	1: Air Strip
Group Site Capacity	Case-by-Case	Maternity Well = 150 people or 30 vehicles Air Strip = 500 people or 30 vehicles at trailhead Agricultural Fields = 500 people	Maternity Well = 150 people or 30 vehicles Air Strip = 500 people or 30 vehicles at trailhead Agricultural Fields = 1,000 people Road Canyon = 50 people Hilton =50 people	Air Strip = 300 people
Designated Camp Areas	None	4: Oak Tree, Cieneguita, Oil Well, and Road Canyon	5: Oak Tree, Agricultural Fields, Cieneguita, Oil Well, and Road Canyon	4: Oak Tree, Cieneguita, Oil Well, and Road Canyon
Day Use Areas	None	2: Empire Gulch, West 1/4 of Air Strip	2: Empire Gulch, West 1/4 of Air Strip	1: Empire Gulch
Designated Pullouts Note: These are the minimum number of pullouts and approximate locations; others may be proposed and site locations may be adjusted after site reviews.	None	2: (Kiosk and Ranch HQ) from Hwy. 83 East to Ranch HQ 4: From Ranch HQ South to Oil Well on South Road Loop Rd. 4: From Oil Well to Hwy. 82 Entrance on South Road Loop Rd. 1: On Curley Horse-Hummel Road	2: (Kiosk and Ranch HQ) from Hwy. 83 East to Ranch HQ 4: From Ranch HQ South to Oil Well on South Road Loop Rd. 4: From Oil Well to Hwy. 82 Entrance on South Road Loop Rd. 1: On Curley Horse-Hummel Road 3: From Ranch HQ to Agricultural Fields	2: (Kiosk and Ranch HQ) from Hwy. 83 East to Ranch HQ 4: From Ranch HQ South to Oil Well on South Road Loop Rd. 4: From Oil Well to Hwy. 82 Entrance on South Road Loop Rd
Group Size (Requiring Special Recreation Permit[1])	50 Vehicles	30 or More People	30 or More People	30 or More People

[1]Other conditions may warrant a special recreation permit, including commercial and competitive events.

- **Agricultural Fields**: ~~1,000~~ 500 people.

Under Alternative 2, at the Maternity Well group site, BLM would move the parking area south of the existing corral to reduce visual impacts from the entrance road. BLM would also delineate a parking area with barriers of natural materials and, if needed, may harden the parking area with gravel or similar materials. If necessary, BLM might install a gate on this road to control access to the site. In addition, the water source might be moved so that camping in this area does not affect livestock or wildlife access to water. The Maternity Well group site would be open seasonally, generally, from October to April.

Under Alternative 2 the Air Strip site would consist of a combination group site and trailhead. About 75% of the site would be open for group use on a reservation basis but would not be open to individual use. About 33% of this group site would consist of an overflow area for larger group events. BLM would reclaim and re-vegetate the site as needed to minimize bare ground, reduce visual impacts, and create more desirable camping opportunities.

The remaining 25% at the site would serve as a day use area and as a trailhead and parking area for the Arizona Trail. Trail users could park overnight in this area, and other visitors could use the area in the day. BLM would delineate the day use and trailhead parking area with barriers made of natural materials. The parking area could be hardened with gravel or similar material if necessary. The Air Strip group site would be open year round with periodic closures to allow the area to recover from impacts as determined by monitoring.

Under Alternative 2, the northeast corner of the Agricultural Fields would be designated as a group site and would have no development except for water at the Field Well. This site is specified for group events lasting no longer than one week. The Agricultural Fields would be open seasonally and could be closed, and numbers of users or length of events restricted due to environmental restoration.

Designated Road Crossings
Under Alternative 2, the route designations (Map 2-6) limit motorized vehicles to four crossings of Cienega Creek (only one across perennial section) and one crossing of Empire Gulch (only one across perennial section) (See Table 2-19A). There are two additional designated non-motorized crossings on Cienega Creek or Empire Gulch.

Alternative 3: ~~Activity Plan~~ Management Actions

Management Actions Common to Alternatives 2, 3, and 4

See the first section of Alternative 2 above for Management Actions Common to Alternatives 2, 3, and 4 regarding: Upland Vegetation, Riparian, Fish and Wildlife, **Mineral Resources**, Cultural Resources, Access and Transportation, and Recreation Management Actions.

Cultural Resource Management Actions

Empire Ranch Headquarters
Management under Alternative 3 would be the same as under Alternative 2.

Cultural Properties Outside the Headquarters Area
Management under Alternative 3 would be the same as under Alternative 2 except that under Alternative 3, Class III cultural resource surveys would be conducted on ~~94.2~~ 89.0 miles of roads and trails by 2004 **(dependent on adequate funding)**.

Alternative 3 Livestock Grazing and Recreation Management Actions

Livestock Grazing Management Actions

Alternative 3 takes the traditional land management agency approach to livestock grazing management. Each allotment has a fixed stocking rate based on a "conservative " number of cattle that the agencies believe could be run every year on the allotments on a sustained yield basis (Table 2-28). The livestock numbers would be established in the livestock leases by each agency. The initial stocking rate would be based on the cattle numbers recommended in the NRCS ecological site guides for ranges with a "fair" similarity to the historic climax plant communities on each allotment. BLM would have to recommend that the ASLD reduce the cattle numbers on the BLM held leases to achieve the numbers proposed under this alternative.

Under Alternative 3, the stocking rate would not vary with changes in vegetation production. Table 2-29 shows the total vegetation production in favorable, normal, and unfavorable years (based on rainfall) on all lands within each allotment. Also shown is the average amount of forage that livestock could consume on these lands under established maximum stocking rates. In unfavorable years a proportionally greater percentage of the ~~available~~ **useable** forage is consumed than in favorable years. The ~~available~~ **useable** forage is assumed to be 50% of the total vegetation produced multiplied by the 35% utilization rate on lands allocated for livestock grazing.

Highlights of Alternative 3 Livestock Grazing Management

. Four livestock operators would continue to lease public lands in the planning area on four individual grazing allotments (Empire-Cienega, Empirita, Rose Tree, and Vera Earl). A livestock grazing allotment would be established in the Empire Mountains.

. Each allotment would implement a conservative set stocking rate with scheduled livestock rotations-next best pasture strategy.

. On each allotment the utilization limits would be adjusted downward from current levels as recommended by Holechek and others (1999). Like Alternative 2, Alternative 3 would implement utilization of 30-40% of current year's growth on key perennial grasses and assure that the physiological requirements of plant growth, rest, and reproduction are met for the following key species:

Perennial Grasses

Plains Lovegrass (ERIN)
Sideoats Grama (BOCU)
Cane Beardgrass (BOBA3)
Vine Mesquite (PAOB)
Blue Grama (BOGR)
Black Grama (BOER4)
Hairy Grama (BOHI2)
Sprucetop Grama (BOCH)
Plains Bristlegrass (SE~~LE2~~**MA**)
Wooly Bunchgrass (ELBA)
Green Sprangletop (LEDU)
Arizona Cottontop (DICA8)
Crinkleawn (TRMO)
Bush Muhly (MUPO2)
Prairie Junegrass (KOCR)

. BLM would eliminate the biological planning process on the Empire-Cienega allotment, and not apply similar biological planning processes to the other allotments. Proposed changes with which the livestock's operator does not voluntarily comply would need to go through BLM's grazing decision process, with the potential for hearings on and appeals of the proposed decisions. Change in livestock numbers on State Trust and privately owned or leased lands in the ranch operations would be outside BLM's influence.

Table 2-28
Proposed Authorized Grazing Use Under Alternative 3
Las Cienegas Resource Management Plan

Allotment	Total Acres Grazed	Total Cows	Total Production (Million-lbs.) (Normal Yr.)	BLM Acres Grazed	~~BLM~~ Cows on BLM	BLM Acres Not Grazed	ASLD Acres	~~ASLD~~ Cows on ASLD	Private Acres	Cows on Private ~~Cows~~
Empire	73,487	796	88.18	36,025	390	659	3,7462	406	0	0
Empirita	24,948	229	19.96	1,480	14	40	23,468	215	0	0
Rose Tree	8,869	96	10.64	3,950	43	0	3,719	40	1,200	13
Vera Earl	1,440	16	1.73	1,440	16	0	0	0	N/A	N/A
Empire Mountains	3,524	38	2.82	2,480	27	~~2,480~~	0	0	1,044 Total Grazed 0	11
TOTAL:	**107,704**	**1,175**	**123.33**		**~~43,895~~ 45,375**	**~~486~~ 490**	**699**	**64,649**	**661**	**2,244**	**24**

Table 2-29
Vegetation Production under Three Rainfall Regimes and Livestock Forage Consumption under Alternative 3 Livestock Management
Las Cienegas Resource Management Plan

	Total Acres Grazed	Total Cows	Total Production Grazed Acres (Million-lbs.)	Production Consumed by Total Cows (Million-lbs.)	% Total Production Consumed	~~Available~~ Useable[1] Forage (Million-lbs)	% ~~Available~~ Useable Forage Consumed[2]
Favorable Year	107,704	1,175	188.55	11.28	6	33.00	34
Normal Year	107,704	1,175	123.33	11.28	9	21.58	52
Unfavorable Year	107,704	1,175	82.75	11.28	14	14.48	78

[1] Useable Forage = (TOTAL PRODUCTION /2) x 35% Use Limit
[2] LBS of Forage Consumed = #CYL x 800lbs/month x 12. A 35% Use limit with variable stocking maintains herd consuming about 2/3 of the useable forage (not total production) during different years of production. Without variable stocking rate the vegetation reserve is consumed by the herd as production decreases.

Empire-Cienega Allotment (#6090)-- Alternative 3 Proposed Management

Summary of RMP ~~Level~~ Proposal
Under Alternative 3, BLM would allocate **4,680 AUMs of** livestock forage on 36,025 acres of the 36,684 acres of public land within the existing Empire-Cienega allotment (# 6090), and 659 acres would be excluded from livestock grazing.

~~Activity Plan Proposal~~
Livestock Management Actions
The proposed livestock grazing management for the Empire-Cienega allotment under Alternative 3 would change the grazing strategy to a fixed conservative stocking rate with scheduled livestock rotations-next best pasture strategy. This is the traditional agency approach.

Summary of Empire-Cienega Grazing Management

1. Establishes a conservative stocking rate (allowing for the dry years). The operator may run this number of cattle each year following a scheduled rotation that provides rest and deferments from livestock grazing. The stocking rate would be set at 796 cattle year-long (CYL) for the entire allotment (at 49% public land use) with scheduled rests and grazing deferments.

2. Eliminates the Biological Planning Team approach. BLM, the Arizona State Land Department, the grazing lessee, and other interested parties would monitor use levels and vegetation changes.

3. Modifies the grazing management plan to a fixed, conservative stocking rate. Range improvements proposed under Alternative 1 would be developed. **Additional range improvements may be proposed and constructed in the future based on results of ecological monitoring and/or livestock management needs**.

4. Reduces utilization to 30-40% of current year's growth on key perennial grass species as described in the Alternative 3 Livestock Grazing Management Actions above.

5. Continues to implement the following measures to protect populations of Gila topminnow and topminnow habitat from grazing impacts:

   a. Limit livestock use in riparian areas of Cienega Creek, Mattie Canyon, and Empire Gulch with perennial water to the crossing lanes and watering areas listed in Table 2-25 **and shown on Map 2-26A** and areas where BLM determines a need to use livestock grazing as a management tool to meet a riparian or aquatic-related resource objective.

   b. Rotate use of crossing lanes and move cattle through them within 21 days.

   c. Phase out water gaps in areas where adjacent upland waters are developed.

   d. Inspect and maintain riparian exclosure fences at least ~~twice~~ **once** annually **just prior to use of lands adjacent to the exclosures**.

   e. Locate all new repressos (i.e., earthen stock ponds) to minimize the likelihood of floods or humans moving exotic fish and bullfrogs into topminnow habitat.

   f. Use repressos only when required to water cattle and allow repressos to dry when no longer needed. Drain repressos if they do not dry annually. **The BLM would be responsible for any required draining of repressos not related to the livestock operation**.

   g. Monitor the fish community and habitat, including crossing lanes, grazed riparian

zones, and repressos to document the level of incidental take and to check for introduction of exotic fish and bullfrogs.

h. Develop mitigation plans in coordination with the Fish and Wildlife Service for range improvements and vegetation treatments which may harm the topminnow or its habitat.

6. Continues to implement the following measures to protect the Southwestern willow flycatcher and its habitat from grazing impacts:

a. Exclude livestock grazing from occupied or unsurveyed, suitable habitat during the southwestern willow flycatcher breeding season (April 1-September 1) except for crossing lanes.

b. Authorize no livestock management activities, including development of range improvements, in the riparian zone of occupied or unsurveyed, suitable willow flycatcher habitat during the willow flycatcher breeding season.

c. Locate any new livestock management facilities that are likely to attract and support cowbirds more than five miles from occupied, suitable, or potential flycatcher habitat unless such facilities are crucial to protecting riparian habitat, and cowbird trapping is implemented to counteract the effect of the facility.

7. Adjusts livestock grazing rotation and utilization and installs more fencing, as needed, (1) to achieve the watershed cover required in the upland vegetation objective and (2) to leave enough cover after the summer livestock rotation to meet cover needs for Pronghorn fawning as described in the pronghorn habitat objective (Upland Wildlife Habitat Sub-Objective B).

8. Adjusts grazing rotation by erecting a north-south Hilton pasture fence, and possibly an east-west Hilton pasture fence to ensure adequate cover for grassland sparrows as defined in the grassland sparrow subobjective (Upland Wildlife Habitat Sub-Objective A).

Empirita Allotment (#6210)--
Alternative 3 Proposed Management

Summary of RMP-~~Level~~ Proposal
Under Alternative 3, BLM would allocate **168 AUMs of** livestock grazing forage on 1,480 acres of the 1,520 acres of public lands within the Empirita allotment (#6210) and include the 40 acres at the Narrows in a livestock exclosure. BLM would continue to sublease the 23,468 acres of ASLD livestock grazing lease (05-437) to the Parsons Company.

~~Activity Plan Proposal~~
Livestock Management Actions
Alternative 3 would change the grazing management strategy for the Empirita allotment to a fixed conservative stocking rate with scheduled livestock rotations-next best pasture strategy, applying the traditional land management agency approach.

Summary of Empirita Grazing Management
1. Establish a conservative stocking rate (allowing for the dry years). The operator may run this number of cattle each year following a scheduled rotation that provides rest and deferments from livestock grazing. The stocking rate would be set at 229 CYL on the entire allotment (at 6% public land use) with scheduled rests and grazing deferments.

2. BLM, the Arizona State Land Department, the grazing lessee, and other interested parties would monitor use levels and vegetation changes.

Alternative 3 would not apply the Biological Planning Team approach. Under Alternative 3, the range improvements proposed for Alternative 1 would still be developed and fencing and water developments would be installed for riparian pastures at the Narrows and around Nogales Spring. **Additional range improvements may be proposed and constructed in the future based on results of ecological monitoring and/or livestock management needs**.

3. Reduce utilization to 30-40% of current year's growth on key perennial grasses as described in the Alternative 3 Livestock Grazing Management Actions above.

4. Continue to implement the following measures to protect populations of Gila topminnow and topminnow habitat from grazing impacts:

    a. Limit livestock use in riparian areas of Cienega Creek and Nogales Springs with perennial water to the Narrows crossing lane and watering area (See Table 2-25) and areas where BLM determines a need to use livestock grazing as a management tool to meet a riparian or aquatic-related resource objective.

    b. Rotate use of crossing lanes and move cattle through them within 21 days.

    c. Phase out water gaps in areas where adjacent upland waters are developed.

    d. Inspect and maintain riparian exclosure fences at least ~~twice~~ **once** annually **just prior to use of lands adjacent to the exclosures**.

    e. Locate all new repressos (i.e., earthen stock ponds) to minimize the likelihood of floods or humans moving exotic fish and bullfrogs into topminnow habitat.

    f. Use repressos only when required to water cattle and allow repressos to dry when no longer needed to water cattle. Drain repressos if they do not dry annually. **The BLM would be responsible for any required draining of repressos not related to the livestock operation**.

    g. Monitor the fish community and habitat including crossing lanes, grazed riparian zones, and repressos to document the level of incidental take and to check for introduction of exotic fish and bullfrogs.

    h. Develop mitigation plans in coordination with the Fish and Wildlife Service for range improvements and vegetation treatments which may harm the topminnow or its habitat.

5. Continue to implement the following measures to protect the Southwestern willow flycatcher and its habitat from grazing impacts:

    a. Exclude livestock grazing from occupied or unsurveyed, suitable habitat during the Southwestern willow flycatcher breeding season (April 1-September 1) except for crossing lanes.

    b. Do not authorize livestock management activities including development of range improvements in the riparian zone of occupied or unsurveyed, suitable willow flycatcher habitat during the willow flycatcher breeding season.

c. Locate any new livestock management facilities that are likely to attract and support cowbirds more than five miles from occupied, suitable, or potential flycatcher habitat unless such facilities are crucial to protecting riparian habitat, and cowbird trapping is implemented to counteract the effect of the facility.

Rose Tree Allotment (#6043)--
Alternative 3 Proposed Management

Summary of RMP-~~Level~~ Proposal
Under Alternative 3, the resource management plan proposal is to allocate 516 AUMs of livestock grazing forage on 3,950 public land acres within the Rose Tree allotment with no exclosures. Grazing would also continue on the 3,719 acres of State Trust Land and 1,200 acres of private lands in the ranch operation for a total of 8,869 acres in the allotment.

~~Activity Plan Proposal~~
Livestock Management Actions
The ~~activity plan~~ proposal is to manage grazing with a conservative fixed stocking rate with scheduled livestock rotations-next best pasture strategy. ,Alternative 3 would apply the traditional land management agency approach.

Summary of Rose Tree Grazing Management

1. Establish a conservative stocking rate (allowing for the dry years) of 96 cattle year-long on the 3,950 acres of public lands at 46% public land use. The operator may run this number of cattle each year following a scheduled rotation that provides rest and deferments from livestock grazing.

2. BLM, the Arizona State Land Department, the grazing lessee, and other interested parties would monitor use levels and vegetation changes. Alternative 3 would not apply the Biological Planning Team approach. As under Alternative 1, BLM would need to complete an ecological site inventory for this allotment to evaluate vegetation conditions. Also as under Alternative 1, BLM would need to evaluate current grazing management in light of the upland vegetation objective to determine if the allotment needs a new grazing management strategy (allotment management plan). The plan would include range improvements found to be needed to implement management changes.

3. Reduce utilization to 30-40% of current year's growth on key perennial grasses as described in the Alternative 3 Livestock Management Actions above.

4. Adjust livestock grazing rotation and utilization and erect more fencing as needed to leave enough cover after the summer livestock rotation to meet cover needs for Pronghorn fawning as described in the pronghorn habitat objective (Upland Wildlife Habitat Sub-Objective B) and the cover requirements in the upland vegetation objective.

5. Adjust grazing rotation as needed to ensure adequate cover for grassland sparrows as defined in the grassland sparrow subobjective (Upland Wildlife Habitat Sub-Objective A).

Vera Earl Allotment (#6129)--
Alternative 3 Proposed Management

Summary of RMP-~~Level~~ Proposal
Under Alternative 3, the resource management plan proposal is to allocate 192 AUMS of livestock grazing forage on all 1,440 public land acres within the Vera Earl Allotment with no exclosures.

~~Activity Plan Proposal~~
Livestock Management Actions
The ~~activity plan~~ proposal is to manage grazing with a conservative fixed stocking rate, applying the traditional land management agency approach. BLM expects that the operator would

continue the current rotational strategy with scheduled livestock rotations.

Summary of Vera Earl Grazing Management

1. Because of the small acreage involved, the options for alternative management strategies would be limited if the rest of the Vera Earl allotment holdings are not included in the strategy for grazing of the 1,440 acres of public land.

Option A:

- Establish a conservative stocking rate (allowing for the dry years) of 16 CYL at 100% public land use.

- Allow seasonal livestock grazing by 48 cattle for a 4-month period during the year (48 CYL at 100% public land use = 144 AUMs). To prevent grazing during the same period each year, the operation would rotate the period of use. A conservative stocking rate would be established (allowing for the dry years) and the operator could run this number of cattle each year during the specified seasonal use period.

Option B:

- Base licensed on the total ranch holdings of about 23,240 acres, or 240 cattle for 12 months at 7% public land use (of which 1,440 acres is BLM administered). The other lands include national forest and about 6,000 acres of private land holdings of the ranch. The operator may run this number of cattle each year following a scheduled rotation that provides rest and deferments from livestock grazing.

The following actions would also be taken under either Option A or B for the Vera Earl allotment:

1. BLM would not use the Biological Planning Team approach under either Option A or B but, as under Alternative 1, would need to complete an ecological site inventory for this allotment to evaluate vegetation conditions. BLM would also need to evaluate current grazing management in light of the upland vegetation objective to determine if a new grazing management strategy (allotment management plan) is needed. The plan would include range improvements found to be needed to implement management changes.

2. Under either option, reduce utilization to 30-40% of current year's growth on key perennial grass species as described in the Alternative 3 Livestock Management Actions above.

3. Adjust livestock grazing rotation and utilization and erect more fencing as needed to leave enough cover after the summer livestock rotation to meet cover needs for Pronghorn fawning as described in pronghorn habitat objective (Upland Wildlife Habitat Sub-Objective B) and the cover requirements in the upland vegetation objective.

4. Adjust the grazing rotation as needed to ensure adequate cover for grassland sparrows as defined in the grassland sparrow subobjective (Upland Wildlife Habitat Sub-Objective A).

Empire Mountains

Summary of RMP ~~Level~~ Proposal

Under Alternative 3, the resource management plan proposal for the Empire Mountains is to allocate **324 AUMs of** livestock grazing **forage** on 2,480 public acres of the 3,524 total acres within the proposed Empire Mountains Allotment with no exclosures. The allotment would also include 1,040 acres of private lands.

~~Activity Plan Proposal~~
Livestock Management Actions

The ~~activity plan~~ proposal is to manage grazing

with a conservative fixed stocking rate with scheduled livestock rotations-next best pasture strategy. This alternative would apply the traditional land management agency approach.

Summary of Empire Mountains Grazing Management

Prior to authorization of any active livestock use on the new Empire Mountains allotment, the grazing lessee would be required to submit a proposed Allotment Management Plan developed with full cooperation of the private land owners within the allotment boundary. The plan must include necessary water and pasture development to provide adequate yearly rest for rangeland health. The plan must also include executed leases for grazing use of private lands and easements for fences, waters, and livestock ingress and egress. An economic analysis would be required showing sources and timeframes for funding of the necessary infrastructure. An environmental analysis and biological assessment on the plan would also be required including completion of an ecological site inventory. The following steps must be completed before the allotment can be activated:

1. Before authorizing any use, BLM would complete a community-based grazing management plan with the affected lessee, agencies, and the private land owners.

2. Establish a conservative stocking rate (allowing for the dry years) of 38 cattle year-long on the 3,524 acres allotted for grazing in the allotment (38% public land use). The 2,480 public land acres would be grazed on the allotment, according to the scheduled rotation that provides rest and deferments from livestock grazing.

3. BLM, the lessee, the Natural Resources Conservation Service, and other interested parties would monitor use levels and vegetation changes. Alternative 3 would not apply the Biological Planning Team approach. As under Alternative 2, BLM would need to complete an ecological site inventory for this allotment to evaluate vegetation conditions and develop an allotment management plan. The plan would include range improvements found to be needed to implement management changes.

4. Set the utilization limit to 30-40% of current year's growth on key perennial grasses as described in the Alternative 3 Livestock Management Actions section above.

Recreation Management Actions

Management within Recreation Zones

Table 2-26 summarizes the management prescriptions for each recreation zone. BLM would apply these prescriptions regardless of the different zone configurations under different alternatives.

Management of Designated Recreation Sites

Under Alternative 3, BLM would establish five group sites: Maternity Well, the Air Strip, Agricultural Fields, ~~Antelope Release 1~~ **Road Canyon**, and ~~Antelope Release 2~~ **Hilton**; five camp areas: Agricultural Fields, ~~Antelope Release 1~~ **Road Canyon**, Cieneguita, Oak Tree, and Oil Well; and at least 14 pullouts (Map 2-29). BLM would manage these sites according to the general management prescriptions for group sites, camp areas, and pullouts as described for Alternative 2.

Under Alternative 3, the capacity for the following group sites (general guidance only) is as follows:

- **Maternity Well**: 150 people or 30 vehicles with horse trailers or recreational vehicles.

Map 2-29
Alternative 3 - Designated Recreation Sites

- **Air Strip**: 500 people (day use and group use areas). The vehicle capacity in the day use/trailhead area is 30 vehicles.

- **Agricultural Fields**: ~~2~~ 1,000 people.

- ~~Antelope Release 1~~ **Road Canyon**: 50 people.

- ~~Antelope Release 2~~ **Hilton**: 50 people.

Under Alternative 3, the Air Strip site would have the same management prescription as under Alternative 2, but proposed developments would be expanded to include the building of permanent toilets and water supplies.

Under Alternative 3, the Agricultural Fields would be open for group use on a reservation basis and would also be open to individual use when not reserved by a group. Only low-impact activities would be allowed with a duration of one week or less. BLM would designate a camping area on the eastern edge near the canal. No development is proposed except for water at the Field Well. The Agricultural Fields will be open seasonally, but could be closed or visitor numbers restricted in response to environmental changes from restoring the area.

Under Alternative 3, the ~~Antelope Release 1~~ **Road Canyon** and ~~Antelope Release 2~~ **Hilton** group sites would be open for group use on a reservation basis and would also be open to individual use when not reserved by a group. Only low-impact activities would be allowed. The group sites would be closed during Pronghorn fawning (April-June) and may have other seasonal closures depending on resource conditions.

Designated Road Crossings

Under Alternative 3, the route designations (Map 2-13) limit motorized vehicles to four crossings of Cienega Creek (only one across perennial section) and one crossing of Empire Gulch (only one across perennial section) (See Table 2-19A). There are six additional designated non-motorized crossings on Cienega Creek.

Alternative 4: ~~Activity Plan~~ Management Actions

Management Actions Common to Alternatives 2, 3, and 4

See Alternative 2 for Management Actions Common to the Action Alternatives for Upland Vegetation, Riparian, Fish and Wildlife, **Mineral Resources**, Cultural Resources, Access **and Transportation**, and Recreation Management Actions.

Cultural Resource Management Actions

Empire Ranch Headquarters

Management under Alternative 4 would be the same as under Alternative 2 with the following exception: Because livestock would no longer graze on public lands, adaptive reuse would also occur for buildings that were supporting the grazing permittee.

Cultural Properties Outside the Headquarters Area

Management under Alternative 4 would be the same as under Alternative 2, except for the following:

1. Selected sites outside the ranch headquarters would be allocated for scientific use. No properties or sites outside the ranch headquarters would be allocated for public use.

2. Any interpretive displays about prehistory or history of the ranch would be located at the headquarters area.

3. Class III cultural resource surveys would be conducted on ~~86.8~~ 83.9 miles of roads and trails by 2004 **(dependent on adequate funding)**. A Class II cultural resource survey would be conducted on the planning area as funded. Class III

cultural resource surveys would be conducted as needed on a project-by project basis.

Alternative 4 Livestock Grazing and Recreation Management Actions

Under Alternative 4, BLM would no longer allocate forage for livestock grazing on 43,594 acres of public lands within four existing allotments. BLM would **phase in the removal of livestock and would** cancel the grazing leases on the four grazing allotments (i.e., Empire-Cienega, Empirita, Rose Tree, and Vera Earl) **as the permits expire**. BLM would need to fence ~~all~~ the public lands to prevent unauthorized grazing from intermingled State Trust and private lands that are owned or leased by livestock operators for grazing use, if grazing use continues on these lands.

Table 2-30 shows the total acres in each allotment; public land acres to be closed to livestock grazing; **maximum** miles of fence that would be needed to exclude livestock grazing **from all BLM parcels**; and current authorized grazing use that would be canceled under Alternative 4 for each of the allotments. The last column shows the total number of livestock that potentially could continue to be stocked on State Trust and private lands within the four allotments on the basis of current stocking rates.

As livestock removal is phased in on public lands, the following actions would occur:

- **Initially, existing fencing would be used to exclude livestock from about 50% of public lands including almost all riparian areas.**
- **Additional fencing would be constructed as needed to exclude livestock from most or all of the public lands.** To prevent livestock trespass from adjacent State Trust and private lands **if they continue to be grazed**, BLM would need to build ~~140~~ **a maximum of 110 miles** of fencing to enclose **all of** the 46,074 public lands as shown in Table 2-30. **At least 40 miles of fencing would probably need to be constructed to exclude livestock from the majority of public lands located in larger blocks.**
- **In the interim, while some public lands are still grazed, cattle use in riparian areas would be further restricted. Only upland watering areas would be used and only two crossing lanes would be available.**
- The interior pasture fencing for livestock watering and handling facilities would be removed where **no longer** needed from public lands.

Table 2-31 shows the total vegetation production in favorable, normal, and unfavorable years (based on rainfall) on the public lands that would be closed to grazing. With the removal of livestock grazing from public lands, the additional forage on public lands would be allocated as wildlife habitat and for watershed protection. Also shown is the total vegetation production on State Trust and private lands within each allotment and the average amount of forage that livestock could continue to consume (based on the current maximum stocking rates) on these lands, if grazing continues. The ~~available~~ **useable** forage is assumed to be 50% of the total forage produced multiplied by the current 50% utilization on lands allocated for livestock grazing.

However, if conservation use was applied for and granted on State Trust Lands so that they were not grazed, then most of the boundary fencing would no longer be necessary and all of the forage could be allocated for watershed and wildlife values.

Recreation Management Actions

Designated Recreation Sites

Alternative 4 would establish one group site at

Table 2-30
Public Lands to be Closed to Livestock Grazing and Fencing Needed to Exclude Livestock from Public Lands Under Alternative 4

Allotment	Total Acres of Open Space in Current Grazing Allotments	Acres of Public Lands to Be Closed to Grazing	Miles of Fencing Needed to Fence Public Lands	Cattle to Be Removed from Public Lands in the Planning Area	Cattle Potentially Remaining on State and Private Lands Within Existing Allotments in the Planning Area
Empire-Cienega	74,146	36,684	116	704	796
Empirita	24,988	1,520	12	9	328
Rose Tree	8,869	3,950	10	92	108
Vera Earl	1,440	1,440	2	27	N/A
TOTAL:	**109,443**	**43,594**	**140**	**832**	**1,232**

[1] Based on Alternative 1 (Current Management).

Table 2-31
Forage Produced under Three Rainfall Regimes and Livestock Forage Consumption Under Alternative 4 Livestock Management (No Livestock on Public Lands) Assuming Continued Stocking of State and/or Private Lands, Las Cienegas Resource Management Plan

	Public Land Acres Closed to Grazing	Total Production Ungrazed Acres (Million-lbs.)	Total Acres Grazed (State and/or Private)	Total Cows	Total Production Of State and Private Grazed Acres (Million-lbs.)	Production Consumed By Total Cows (Million-lbs.)	% Total Production Consumed	~~Available~~ Useable Forage (Million-lbs.)	% ~~Available~~ Useable Forage Consumed
Favorable Year	43,594	77.45	65,849	1,232	104.5	11.8	11.3	26.1	45.2
Normal Year	43,594	51.71	65,849	1,232	69.6	11.8	17.0	17.4	67.8
Unfavorable Year	43,594	34.42	65,849	1,232	45.6	11.8	25.9	11.4	100

the Air Strip, designate four camping areas at ~~Antelope Release 1~~ Road Canyon, Oak Tree, Cieneguita, and Oil Well, and prescribe at least 10 pullouts (Map 2-30). BLM would manage these sites according to the general management prescriptions for group sites, camp areas, and pullouts as described for Alternative 2. Under Alternative 4, BLM would open the Air Strip site to group use on a reservation basis and to individual and day use when no groups have reserved the site with a permit. The site's capacity would be set at 300 people, but could be less depending on the type of activity. BLM would rehabilitate (rip and re-vegetate) about one-third of the air strip and partially re-vegetate the remaining two-thirds. The group site would have no other improvements. Parking would be limited to one end of the group site in an area

Map 2-30

Alternative 4–Designated Recreation Sites

marked by barriers using natural materials. BLM would allow group activities only under a special recreation permit and would monitor impacts to determine if the site's management needs to be adjusted. Under Alternative 4, the trailhead for the Arizona Trail would be placed at the ranch headquarters

Designated Road Crossings

Under Alternative 4, the route designations (Map 2-18) limit motorized vehicles to four crossings of Cienega Creek (only one across perennial section) and one crossing of Empire Gulch (only one across perennial section) (See Table 2-19A). There are no additional designated non-motorized crossings on Cienega Creek or Empire Gulch.

PLAN IMPLEMENTATION

IMPLEMENTATION OF FINAL DECISIONS

Any individual who has participated in this land use planning process may seek an administrative review by the Director of the BLM of any proposed land use plan decision. Following completion of the planning protest process, an Approved RMP/Record of Decision (ARMP/ROD) will be published. Land use plan decisions (Chapter 2, Section A) are essentially implemented upon approval of the RMP. Those management actions (Chapter 2, Section B) which require additional site specific project planning as funding becomes available will require further analysis. Decisions to implement site specific projects are subject to administrative review at the time such decisions are made.

REQUIREMENTS FOR FURTHER ENVIRONMENTAL ANALYSIS

This Final EIS is a programmatic statement describing impacts of implementing both proposed land use plan decisions (Chapter 2, Section A) and associated management actions (Chapter 2, Section B) in the planning area. Site specific environmental analyses and documentation (including the use of categorical exclusions and determinations of NEPA adequacy where appropriate) may be prepared for one or more individual projects, in accordance with management objectives and decisions established in the approved land use plan.

Interdisciplinary impact analysis will be based on this and other applicable EISs. If the analysis prepared for site specific projects finds potential for significant impacts not already described in an existing EIS, another EIS or a supplement to an existing EIS may be warranted.

CONTINUED PUBLIC INVOLVEMENT

BLM will continue to involve and collaborate with the public during implementation of this plan. Opportunities to become involved in the plan implementation and monitoring will include participation in The Sonoita Valley Planning Partnership, Empire Ranch Foundation, Biological Planning Process, and other partnerships.

MONITORING AND PLAN EVALUATION

MONITORING

Monitoring is an essential component of an adaptive management strategy. Monitoring data is used to assess resource conditions, identify resource conflicts, determine if resource objectives are being met, and periodically refine and update desired conditions and management strategies.

Ongoing monitoring that would be continued under all alternatives (See Appendix 2 for monitoring protocols) includes the following:

Native Fish Monitoring. At least five aquatic habitats will be monitored annually using one-pass sampling with seines to determine relative abundance and population trends of Gila topminnow and to screen for exotic fishes and bullfrogs.

Aquatic Habitat Monitoring. At least 4 - 0.25 mile reaches of Cienega Creek will be monitored every three years to determine habitat trends.

Riparian Monitoring. Riparian condition will be reassessed every five years at key riparian monitoring sites for segments currently in proper functioning condition. Segments which are not in proper functioning condition will be monitored every 2-5 years depending on the type of management change being implemented.

Upland Vegetation Monitoring. Upland vegetation will be monitored at permanent vegetation transects on the Empire-Cienega and Empirita allotments. A proportion of these transects will be monitored annually. In addition, habitat components for pronghorn fawns and grassland sparrows will be monitored annually along transects in key areas.

Water Quantity Monitoring. Stream discharge measurements will be obtained from a continuous recording stream gage on Cienega Creek.

Wildlife Monitoring.

Monitoring Avian Productivity and Survivorship (MAPS) Bird Banding Station: A MAPS station is scheduled to be established in 2002. MAPS is a nationwide network of bird-banding stations, operated during spring and summer, to collect data on the productivity and survival rates of land bird populations. The operation of a MAPS banding station entails a total of only 6-10 days every year between May and August. The purpose of MAPS station is to provide long-term data on the productivity, survivorship and population sizes of land bird species through constant-effort mist-netting and banding during the breeding season. The major objective of the MAPS program is to contribute to an integrated avian population monitoring system for North American land bird species by providing annual regional indices and estimates for four population and demographic parameters: adult population size, post-fledging productivity, adult survivorship, and recruitment into the adult population

Annual willow flycatcher surveys will be conducted in suitable habitat for a minimum of 3 years to determine if additional pairs are colonizing the area and if so whether successful nesting is occurring. If breeding pairs are found to be regularly using the area, then monitoring will be continued for the longer term.

In August 2001, BLM established 5 photo plots to monitor yearly fluctuations in agave abundance. These plots will be sampled annually. In addition, a plot based methodology to assess influences of herbivory on agave being tested by the University of Arizona Range Department will be evaluated for use on the planning area.

Habitat components for pronghorn fawns and grassland sparrows will be monitored annually along transects in key areas. A pronghorn habitat study initiated by the AGFD in the spring of 2002 should help refine future monitoring needs and appropriate methodologies.

Wetland ponds in the floodplain of Cienega Creek will be monitored annually for presence of native frogs and bull-frogs and control program for bull-frogs continued as necessary.

BLM is contracting in 2002 with the University of Arizona to assist in inventory of Cienega Creek for aquatic herptiles and development of a long-term monitoring program.

Visitor Use and Impacts Monitoring.
In Fall 2001, BLM contracted with the University of Arizona to inventory for and establish a visitor use and impacts monitoring program for Las Cienegas NCA. This work will be carried out in phases during the next three

years (described below), and will be integrated with the implementation of this plan.

Phase I – Assessing Visitor Impact Conditions. This assessment will consist of mapping all existing visitor impact areas (campsite locations, drainage areas,existing gates, fences, trailheads, etc.). In addition, all visitor impact areas will be inventoried using a modified version of the Cole Campsite inventory methodology. This methodology evaluates each of the impact areas, examining vegetation cover, firewood availability, vegetation density, composition, total area impacted, barren core area, litter and duff, social trails, mutilations etc. The data collected for each of the locations will be used to derive a impact condition ranking as well as to determine viable, quantitatively evaluated ecological indicators that can be used for establishing a long term monitoring program.

Phase II – Visitor Use/Social Inventory & Monitoring . This inventory/monitoring phase will be undertaken to capture baseline information on both spatial and temporal patterns of dispersed visitation of the conservation area. In addition, monitoring will be established to capture current patterns of recreational vehicular use in the NCA. The inventory process will involve undertaking a stratified sample of known trail head/entrance locations to the conservation area. Both overnight and day use activities will be assessed. At all major trailhead/entrances, a self-administered automated card/diary system will be established to capture spatial/temporal patterns of use in those designated areas. Trail counters will be used to quantify volume of use, anticipating that not all those visiting the area will take the time to use the diary. Day use cards will also be used at these locations to capture similar information from those only intending on spending the day in the conservation area.

Phase III – Using Simulation to test alternative Management plans and Derive Capacity Measures. This phase of the project will construct a simulation system using data collected during the first two phases to simulate and evaluate management alternatives considered in the conservation area's management plan. The simulation system will allow managers to identify issues such as points of overcrowding, bottlenecks in circulation, parking capacity at trailheads, conflicts between different user groups and associated environmental impacts, distribution of use with proposed road closures, impacts of proposed commercial or new visitor activities before committing resources to expensive construction projects. More importantly, the simulation environment will provide managers with the capability to explore visitor capacities and their associated impacts. This phase will assist in determining where increase use will be expected, how much and aid in establishing a monitoring plan for both visitor use and associated impacts.

Under Alternatives 1 and 2, the biological planning process would be continued as described in the livestock grazing management actions for ~~the~~ Alternatives 1 and 2 ~~activity plans~~. Depending on the issues for that session, monitoring data collected for biological planning will include:

Precipitation
Rangeland ecological site (range) condition
Riparian and aquatic condition
Vegetation trends
Vegetation utilization
Soil cover
Wildlife populations and habitats
Livestock pasture use records
Livestock pasture recovery (new production)
Recreation post-use reports

Informal evaluations of monitoring data would occur twice a year when the Biological Planning Team meets to discuss livestock and recreation management activities.

In addition, under Alternatives 2, 3, and 4, a threat-based ecological monitoring program is proposed (See Appendix 2) to expand ongoing

monitoring efforts. The ecological monitoring program would be fully developed **as a separate document but would be** ~~as~~ an integral part of BLM's Final Las Cienegas Resource Management Plan. **The monitoring program** ~~and~~ would help ensure that the Empire-Cienega RCA's (now Las Cienega's NCA) resources are protected over both the short- and long-term under a flexible, multi-use management plan. Development of partnerships would be an important factor in implementing the monitoring program.

PLAN EVALUATIONS

Plan evaluations determine whether the land use plan decisions and NEPA analysis are still valid and whether the plan is being implemented. At a minimum, BLM will conduct formal plan evaluations every five years. Results of plan evaluations will be included in a report to the BLM Field Manager. The following questions are generally addressed in plan evaluations:

1. Are actions outlined in the plan being implemented?

2. Is BLM achieving or likely to achieve resource goals, standards, and objectives?

3. Are the allocations, constraints, or mitigation measures effective in achieving objectives?

4. Do decisions continue to remain valid over time?

5. Has there been significant change in the related plans of Indian tribes, State or local governments, or other federal agencies?

6. Are new data or analyses significant to the planning decisions or the validity of the NEPA analysis?

7. Can unmet needs or new opportunities best be met through a plan amendment or revision or will current management practices be sufficient?

8. Is new information needed to resolve a new or existing issue?

INFORMATION NEEDS

The actions in this section are proposals to increase the knowledge base for the Empire-Cienega Planning Area. In some instances, BLM must have the information from these inventories or studies before changing management. In other instances such information is desirable for making more informed land management decisions. These studies and inventories will supplement the monitoring proposals in tracking the progress of proposed actions in meeting resource objectives.

INVENTORIES AND ASSESSMENTS

1. Assess the road system to determine what design changes are needed to halt excessive erosion or other resource impacts.

2. Inventory all natural and developed water sources within the planning area to determine their use and reliability as wildlife water sources and to determine if more waters are needed.

VEGETATION STUDIES

1. In partnership with other agencies and entities, continue to complete ecological site inventories of all lands in the planning area. In particular, inventories are needed of the current vegetation conditions in the Rose Tree and Vera Earl allotments and the Empire Mountains.

2. Continue to work on developing and refining riparian ecological site descriptions (including sites for interior marshland communities) for Empire-Cienega riparian areas.

3. Place surveyed cross sections in key riparian segments (geo-referenced).

FISH AND WILDLIFE STUDIES

As funding and priorities allow, support research in priority species and habitats including the following:

1. Collect information on roost locations and the timing and level of use of flowering agave by lesser-long-nosed bats in the Sonoita Valley and the relationships of grazing and prescribed fire to survival and reproduction of agave populations.
2. Study pronghorn and mule deer including population viability, movements, and use patterns to determine population and habitat relationships to proposed land uses and ongoing development patterns. Study the effect of prescribed fire on Baird's and Botteri's sparrows

3. Study the effect of prescribed fires in uplands on water quality and on the fish community in Cienega Creek.

CULTURAL RESOURCE STUDIES

1. Conduct a Class II cultural resources inventory of the planning area as funding allows.

2. Conduct ethnographic and historic studies for the planning area, including ethnoecology and an oral history collection as funding allows.

COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

See Table 2-32, beginning on the following page.

Table 2-32.
Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
PHYSICAL RESOURCES		
Air Quality	No impacts.	Short-term lowering of air quality from prescribed fires. Slight improvement in air quality from road restrictions or closures and recreation permit system.
Watersheds ***Scope of Analysis: Impacts to watershed resources and processes, including soils, groundwater, surface water, and vegetation cover.***	Alternative 1 might fail to meet upland and riparian vegetation objectives over the long term due to watershed impacts such as increased erosion and runoff and decreased infiltration from lack of vegetation treatments. The result would be a shrub invasion combined with impacts of grazing, increasing unmanaged recreation, an extensive road network, proliferating utility lines, and potential for mineral development, which would disrupt hydrologic processes.	Alternative 2 more emphasizes maintaining and improving overall watershed health than do Alternatives 1, 3, or 4 due to the emphasis on ecosystem (watershed) management and collaboration, combined with flexible grazing management; integrated vegetation treatment; elimination of potential for mineral development; and designation of utility corridors, recreation zones, and all public land in planning area as an ACEC.
	Impacts from developments and concentrated activities, including roads, utility lines, recreation sites, administrative sites, and livestock developments total 2,680 acres (5.5%) of public land. Impacts include loss of vegetation cover, soil disturbance, increased erosion, and sedimentation.	Impacts from developments and concentrated activities, including roads, utility lines, recreation sites, administrative sites, and livestock developments, total 2,400 acres (4.9%) of public land. Impacts include loss of vegetation cover, soil disturbance, and increased erosion and sedimentation.
	Dispersed recreation impacts would occur on all 49,000 acres of public land. Impacts could include localized loss of vegetation cover; soil disturbance; and increased erosion from roads, trails, and dispersed camp sites.	Dispersed recreation impacts would occur on 44,387 acres (91%) of public land. Impacts could include localized loss of vegetation cover; soil disturbance; and increased erosion from roads, trails, and dispersed camp sites.
	Livestock grazing impacts would occur on 41,855 acres (85%) of public land and could include loss of vegetation cover, increase in shrub component, and soil disturbance.	Livestock grazing impacts would occur on 42,155 acres (86%) of public land. Impacts could include loss of vegetation cover, increased shrub component, and soil disturbance. Livestock grazing management under Alternative 2 would improve watershed conditions and aid in attaining the upland and riparian objectives better than would Alternative 1. Adaptive management of livestock numbers and rotation systems adjusted for current grass production would likely improve vegetation and soil cover conditions and stability.

Impacts From Alternative 3	Impacts From Alternative 4
Same as under Alternative 2.	Same as under Alternative 2.
Of all alternatives, Alternative 3 least emphasizes maintaining and improving watershed health due to large area open to mineral development, less flexible grazing management, and 90% less area designated as ACECs.	Of all alternatives, Alternative 4 would most emphasize maintaining and improving watershed health on the public land portion of the watershed due to elimination of mineral development and public land livestock grazing, extensive road closures, and designation of only one utility corridor. But the cumulative impacts of the loss of open space and decline in watershed condition could be substantial if ranches are sold for development due to loss of public grazing lands.
Impacts from developments and concentrated activities including roads, utility lines, recreation sites, administrative sites, and livestock developments total about 2,440 acres (5%) of public land. Impacts would include loss of vegetation cover, soil disturbance, and increased erosion and sedimentation.	Impacts from developments and concentrated activities, including roads, utility lines, recreation sites, and administrative sites, total about 540 acres (1%) of public land. Impacts would include loss of vegetation cover, soil disturbance, and increased erosion and sedimentation.
Dispersed recreation impacts would occur on 31,040 acres (63%) of public land. Impacts could include localized loss of vegetation cover; soil disturbance; and increased erosion from roads, trails, and dispersed camp sites. Recreation management is likely to have a beneficial long-term impact, and of all alternatives would go further to facilitate meeting the upland vegetation objective due to the larger area in Zones 1 and 2, which restrict uses to designated sites.	Dispersed recreation impacts would occur on 45,730 acres (93%) of public land. Impacts could include localized loss of vegetation cover, soil disturbance, and increased erosion from roads, trails, and dispersed camp sites.
Livestock grazing impacts would occur on ~~43,895~~ 45,375 acres (9~~0~~ 92%) of public land. Impacts could include loss of vegetation cover, increased shrub component, and soil disturbance. Grazing management would be more likely to degrade watershed conditions over the long term than grazing management under Alternative1due to potentially slower adjustments in drought years.	Livestock grazing impacts would be eliminated on public land over the long term, but some impacts would temporarily remain.

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
PHYSICAL RESOURCES		
Watersheds, continued ***Scope of Analysis: Impacts to watershed resources and processes, including soils, groundwater, surface water, and vegetation cover.***	Potential for mining impacts on ~~6,373~~ 7,625 acres (~~13~~ 14%) of public land and federal mineral estate. Impacts could include reduced water quantity, loss of vegetation cover, soil removal, decreased water infiltration, increased runoff, increased erosion and sedimentation, and associated channel adjustments.	Potential for mining impacts would be eliminated except for developing existing claims on ~~6,373~~ 7,625 acres of public land and federal mineral estate. Vegetation treatments would improve watershed condition over the long term by reducing shrubs and promoting grass cover, which decreases runoff and improves infiltration. Fish and wildlife habitat improvements would enhance vegetation structure, and increased cover would promote healthy watershed conditions.
Water Quality	No direct, indirect, or cumulative impacts on water quality are expected from current watershed, upland, and riparian area management; VRM Class III designation; or lack of ACEC designation. Impacts would be generally positive from fish and wildlife management. Even limited actions to improve habitat for special status species would reduce runoff, erosion, sedimentation, and turbidity, contributing to improved water quality. Actions taken to meet cultural resource objectives would have an imperceptible impact, but restoring historic sites might increase visitation and traffic with associated harm to road condition, erosion, and water quality.	Increasing vegetation cover resulting from watershed and upland vegetation management, particularly vegetation treatments, would reduce runoff, erosion, and sedimentation of drainages. Riparian area management would also reduce the load of sediment entering the channels of the management area. Fish and wildlife management actions to improve habitat through overall watershed condition improvement would reduce runoff, erosion, sedimentation, and turbidity, improving water quality. No impacts are expected from VRM Class II designation. Cultural resource management impacts would be the same as under Alternative 1.
	Any mineral development under current management would become a potential source of water quality degradation. Without designating a utility corridor, rights-of-way could proliferate, increasing disturbed or exposed surface area and runoff, erosion, and sedimentation in Cienega Creek.	Continuing current closure to mineral development and petitioning to withdraw more lands from mineral entry would significantly lower the risk of future water quality degradation from mining contaminants that could reach Cienega Creek in runoff. Designating right-of-way corridors would limit impacts on water quality to those occurring in existing rights-of-way.

Impacts From Alternative 3	Impacts From Alternative 4
Potential for mining impacts on ~~46,915~~ 48,167 acres (~~96~~ 86%) of public land and federal mineral estate. Impacts could include reduced water quantity; loss of vegetation cover; soil removal; decreased water infiltration; increased runoff, erosion, and sedimentation; and associated channel adjustments. Vegetation treatments would improve watershed condition over the long term by reducing shrubs and promoting grass cover, which decreases runoff and improves infiltration. Fish and wildlife habitat improvements would enhance vegetation structure, and increased cover would promote healthy watershed conditions.	Potential for mining impacts would be eliminated except for developing existing claims on ~~6,373~~ 7,265acres of public land and federal mineral estate. Vegetation treatments would improve watershed condition over the long term by reducing shrubs and promoting grass cover, which decreases runoff and increases infiltration. Fish and wildlife habitat improvements would enhance vegetation structure, and increased cover would promote healthy watershed conditions.
Impacts from watershed, upland, riparian, fish and wildlife, cultural and visual resource management would be the same as described for Alternative 2. Mineral development would degrade water quality as described for Alternative 1 but over a potentially much larger area because public land outside ACECs would be opened to mining.	Impacts from watershed, upland, riparian, fish and wildlife, cultural and visual resources management would be the same as described for Alternative 2. Impacts from mineral development, utility rights-of-way, land use authorizations, and off-highway vehicle and recreation management would essentially be the same as described for Alternative 2.

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
PHYSICAL RESOURCES		
Water Quality, continued	Unpaved roads are a significant source of turbidity and sedimentation in drainages such as Cienega Creek, which receives runoff from the entire planning area. Lack of road closures or restrictions and increased use of the existing road network would continue to degrade water quality in Cienega Creek. Slightly negative impacts, including runoff, sedimentation, and even bacterial contamination of surface water, would result from dispersed, unrestricted recreation. As use increases, the impacts on water quality would likely increase at a higher rate than under the other alternatives. Impacts from current grazing management on water quality would be similar to impacts of grazing on watershed, riparian, and aquatic resources. Maintaining or improving the condition of riparian and upland pasture vegetation is highly important in improving water quality.	Designating roads for OHV use would reduce the number of roads on which vehicles would travel. The result would be a reduced risk of increased sedimentation, turbidity, and accidental spills of petroleum products in Cienega Creek and its tributaries. There is a long-term risk of negative impacts if OHV use increases to a level at which benefits of designated roads would be offset by the damage done by increased traffic. Designating recreation zones and associated management would only slightly affect water quality. Loss of vegetation cover at concentrated recreation use sites would slightly increase sedimentation in drainages. Establishing concentrated use areas and increasing use of dispersed hiking and camping areas, particularly near streams, would increase the risk of human waste degrading water quality. New construction for the Arizona Trail would cause a transitory increase in sedimentation in Cienega Creek, especially where the trail is runs close to the creek. Livestock grazing impacts would be similar to those under Alternative 1 and would slightly reduce turbidity and fecal coliform in Cienega Creek over time. ACEC designation should help promote improved water quality through management prescriptions to improve vegetation cover and manage livestock and recreation to minimize direct impacts to streams.
BIOLOGICAL RESOURCES		
Upland vegetation ***Scope of Analysis: Changes in upland vegetation condition and ability to meet the upland vegetation objective.***	Lack of an integrated vegetation treatment strategy would result in long-term invasion of mesquite and burroweed into grassland sites. This invasion would cause a decline of herbaceous vegetation cover on the soil surface and an increase in deeper rooted woody perennials. If the trend continues, ecological condition would fail to meet the Arizona Standards for Rangeland Health.	Implementing an integrated vegetation treatment would reverse the long-term invasion of woody species. These treatments would convert nearly 20,000 acres of shrub-invaded grassland to a visual aspect of open grassland. Improved upland condition would result. Objectives for fish and wildlife would guide upland vegetation management and might constrain vegetation treatments and range improvements.

Impacts From Alternative 3	Impacts From Alternative 4
Impacts from utility rights-of-way and land use authorizations, off-highway vehicle management, and the Arizona Trail would be the same as described for Alternative 2. Recreation management would be likely to similarly affect water quality as under Alternative 2. Many more acres in Zone 2 could slightly increase concentrated use, and result in an associated increase in runoff and risk of degrading water quality. Livestock grazing management would have greater water quality impacts than under Alternatives 1 and 2 due to the fixed stocking rate. Under unfavorable conditions such as drought, the less flexible management could result in overgrazing and insufficient cover to protect the surface. Sedimentation, increased turbidity, and exceeding standards for fecal coliform could result.	The Arizona Trail would follow existing roads and would not require construction. Eliminating livestock grazing would likely increase upland cover and end cattle disturbance of riparian areas and stream banks. The resulting infiltration of more precipitation and increased density of vegetation in the riparian areas would improve water quality. Sediment, turbidity, and fecal coliform in perennial water would decline. Improvement in water quality is likely to be modest because upland condition is already good and water quality is now meeting state standards.
ACEC designation would also benefit water quality but less than under Alternative 2, which would have four times more area in ACECs.	Benefits of ACEC designation would be the same as under Alternative 2.
Impacts from watershed, upland, riparian, fish and wildlife, cultural, and visual resource management would be the same as described for Alternative 2.	Impacts from watershed, upland, riparian, fish and wildlife, cultural, and visual resources management would be the same as described for Alternative 2.

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
BIOLOGICAL RESOURCES		
Upland vegetation, continued ***Scope of Analysis: Changes in upland vegetation condition and ability to meet the upland vegetation objective.***	Current fish and wildlife and cultural resource management would not affect upland vegetation. Implementing VRM Class III could constrain vegetation treatments and range improvements, increasing costs. Mining could remove or disturb upland vegetation on ~~6,373~~ 7,265 acres of public and split- estate lands, and mining infrastructure could indirectly affect more vegetation. Proliferation of utility lines and service roads without corridor designation could remove or harm upland vegetation. Expanding unauthorized roads due to lack of full implementation of a designated road system would remove or harm upland vegetation. Increased recreation use has increased disbursed recreation impacts, including vegetation trampling, and unplanned fire starts from vehicles, campfires, cigarettes, and arson. Livestock would graze 41,855 acres of upland vegetation. Current upland vegetation condition is meeting Arizona Standards for Rangeland Health. Although overall vegetation conditions are improving under current livestock management, mesquite and brush, which are invading in response to past livestock use and fire suppression, might need to be removed through vegetation treatment. Lack of ACEC designation would not provide special management for upland areas.	Implementing VRM Class II could more constrain vegetation treatments and range improvements than the less restrictive VRM Class III. Cultural resource management would also constrain vegetation treatments and range improvements and increase the cost of achieving desired upland vegetation conditions. Continued closure of acquired lands to mineral development and withdrawal of ~~6,373~~ 7,265 more acres from mineral entry would prevent impacts to upland vegetation described for Alternative 1. Utility development within the two designated corridors would potentially disturb more upland vegetation but probably to a lesser extent than under Alternative 1. Fully implementing the designated road system should minimize unauthorized roads and protect more upland vegetation than under current management. Road closures would restore ~~23.3~~ 20 acres of upland vegetation. Establishing recreation zones would limit camping-related vegetation disturbance on 4,613 acres in Zones 1 and 2. Dispersed recreation would still slightly disturb upland vegetation on 44,387 acres of public land in Zone 3. Building the Arizona Trail would disturb 4 acres of upland vegetation. Establishing a permit system would allow BLM to adjust recreation levels to ensure that upland objectives continue to be met. Livestock would graze 42,155 acres of upland vegetation. Livestock grazing management would benefit watershed condition and function more than under Alternative 1 as described in the impacts to watershed section. ACEC designation would emphasize increased protection of sensitive areas, including upland vegetation, and direct more resources to achieving desired upland vegetation condition.

Impacts From Alternative 3	Impacts From Alternative 4
Mineral development would disturb upland vegetation as described under Alternative 1, but impacts could occur over a much larger area. Utility rights-of-way and land use authorizations would disturb upland vegetation as described for Alternative 2, but impacts could be greater because of the added right-of-way and associated service roads.	Mineral development would affect upland vegetation the same as under Alternative 2. Utility rights-of-way and land use authorizations would affect upland vegetation as described for Alternative 2, but impacts of rights-of-way would be confined to one corridor.
Impacts of OHV management would be the same as for Alternative 2. About ~~16.5~~ 14.2 acres of upland vegetation would be restored on closed roads, less than under Alternative 2. Recreation impacts on upland vegetation would be less than under Alternatives 1 or 2 because more area (17,960 acres) would be restricted to designated sites. The Arizona Trail would affect upland vegetation the same as under Alternative 2.	Impacts of OHV management would be the same as under Alternative 2. ~~Forty~~ About 37 acres of upland vegetation would be restored on closed roads, more than under any of the other alternatives. Recreation zones would limit camping-related vegetation disturbance on 3,270 acres in Zones 1 and 2, less than under either Alternative 2 or 3. Dispersed recreation would still slightly disturb upland vegetation on 45,730 acres of public land in Zone 3. Routing the Arizona Trail along existing roads would preclude more disturbance of upland vegetation from construction.
Livestock grazing management under Alternative 3 would allow the five allotments to meet the upland vegetation objective for most years. Livestock would graze ~~43,895~~ 45,375 acres of upland vegetation. During extended drought the risk of overstocking and overgrazing would increase because livestock management could not change as fast as field conditions might require with a fixed stocking rate. This grazing strategy might degrade vegetation and watershed if plants lose vigor because of persistent low soil moisture and continued grazing at fixed levels.	Livestock would no longer graze 41,855 acres, but residual effects of grazing such as changes in species composition, increases in invasive species, or increases in certain exotics would remain at least in the short term.
ACEC designation would affect upland vegetation much as under Alternative 1 but Alternative 3 would reduce the scope of protection by about 90% for 4,859 instead of 45,859 acres.	Impacts of ACEC designation on upland vegetation would be as described for Alternative 2.

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
BIOLOGICAL RESOURCES		
Riparian/ Wetland Vegetation ***Scope of Analysis: Changes in riparian condition and function and ability to meet the riparian objective.***	Lack of vegetation management might prevent the riparian objective from being met. Shrub invasion and decreased soil stability in the watershed could cause rapid stream adjustments from changes in peak flows. Sediment inputs would temporarily degrade riparian resources. No impacts from current fish and wildlife, cultural, or visual resource management. Large-scale mineral development on lands open to mining might prevent the riparian objective from being met. Water quality could be lowered by excess sedimentation or release of toxic materials. Water quantity could be reduced by water extraction for mining or associated development. The riparian objective could be met with the addition of new utilities unless they proliferate to an extent that they degrade the watershed. Increases in sedimentation and runoff from utility corridor development could be substantial, and lines crossing riparian areas could lead to bank instability and sedimentation. Current off-highway vehicle management generally protects riparian vegetation and stream banks and supports meeting the riparian objective. But the 11 road crossings are a source of sedimentation and harm to stream banks and riparian vegetation.	Implementing integrated vegetation management would improve watershed condition and benefit wetland and aquatic areas through reduced sedimentation and frequency of peak flood flows and increased groundwater recharge, which feeds springs that support riparian plant communities. Prescribed fire would pose a risk of localized short-term harm from loss of mature riparian trees if fire escaped into a riparian area. Fish and wildlife management would benefit riparian/ wetland areas. Securing an instream flow right would help assure the sustainability of perennial water in Cienega Creek over the long term. Restrictions on livestock and recreation use of riparian areas to protect threatened and endangered species would also protect riparian vegetation and banks. Reintroducing beaver would change stream channel geometry and vegetation, leading to expansion of marsh habitats and increased structural diversity of riparian vegetation. No impacts from cultural or visual resource management. Eliminating the potential for mining on public land would greatly reduce the risk of impacts, including riparian habitat degradation from sedimentation, excessive water use, and contamination described for Alternative 1. Utility corridor designation would eliminate most of the risk of direct impacts on riparian areas from new utilities that might occur under Alternative 1. Impacts of OHV designation would be the same as under Alternative 1, but eliminating all but one **concrete** road ~~stream~~ crossing across **the perennial portion of** Cienega Creek and **one concrete road crossing across the perennial portion of Empire Gulch** would alleviate the **associated** impacts of bank erosion and sedimentation.

Impacts From Alternative 3	Impacts From Alternative 4
Impacts from watershed, upland, riparian, fish and wildlife, cultural, and visual resources management would be the same as under Alternative 2. Mineral development would have more potential to degrade riparian areas than under other alternatives because more area would be open to mineral development. Utility rights-of-way and land use authorizations would affect riparian areas the same as under Alternative 2. Off-highway vehicle management would affect riparian areas as under Alternative 1. Road closures and restrictions would affect riparian areas as described for Alternative 2 but a smaller acreage of roads would be closed and rehabilitated.	Impacts from watershed, upland, riparian, fish and wildlife, cultural, and visual resource management would be the same as described for Alternative 2. Impacts from mineral development, utility rights-of-way, and road designations would be the same as described for Alternative 2.

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
BIOLOGICAL RESOURCES		
Riparian/ Wetland Vegetation, continued ***Scope of Analysis: Changes in riparian condition and function and ability to meet the riparian objective.***	Current recreation management could disturb sensitive riparian areas if use levels increase substantially. Lack of restrictions on camping and other activities in riparian areas exposes riparian areas to impacts of dispersed recreation use. The lack of an Arizona Trail designation would not affect riparian/wetland vegetation. Livestock grazing management excludes livestock from most riparian areas. Increased vegetation cover, structure, and composition are leading to more stable riparian areas and potential natural communities. But livestock in crossing lanes and watering areas trample stream banks and disturb riparian vegetation. Lack of ACEC designation means that no specific management actions to protect sensitive wetland and aquatic areas would be prescribed.	Increasing recreation use in riparian areas could trample vegetation and damage stream banks. Some of these impacts would be offset by camping and vehicle restrictions in riparian areas. A recreation permit system would help ensure that use levels are compatible with maintaining riparian function and condition. The Arizona Trail would have no direct impacts. Livestock grazing management would likely benefit riparian areas more than under Alternative 1 due to improved watershed conditions and increased flexibility in management, allowing a more rapid response to changes in resource condition. Continued exclosure of riparian areas to livestock would allow riparian vegetation to rapidly reach its potential. ACEC designation would emphasize a collaborative approach to watershed management and increased protection of riparian areas, and would potentially direct more resources to the area, benefitting riparian areas.
Fish and Aquatic Wildlife (includes aquatic threatened and endangered species) ***Scope of Analysis: Changes in habitat features and populations of fish and aquatic wildlife.***	Lack of integrated vegetation treatment and subsequent impacts on watershed condition might change habitats, including loss of pools from sedimentation and loss of cover from channel adjustments that would degrade aquatic habitat important to federally listed and other aquatic wildlife, including Gila topminnow, Gila chub, longfin dace, leopard frogs, and Mexican garter snake. Current fish and wildlife management includes consultations to reduce harm to endangered or threatened species and aquatic habitats. The Gila topminnow's range would expand to improve the status of the Cienega Creek lineage. Current cultural or visual resource management would not affect fish and aquatic wildlife.	Implementing integrated vegetation treatment would improve watershed condition. The result would be improved aquatic habitats due to lower sedimentation and higher channel stability, which promote high levels of instream cover, a large range of water depths and velocities, and riparian canopy cover development that tempers seasonal extremes in water temperatures. Gila topminnow, Gila chub, longfin dace, leopard frogs, Mexican garter snake, and Huachuca water umbel would all benefit. Prescribed fires could lower water quality and disturb aquatic species, but fire planning should minimize risks.

Impacts From Alternative 3	Impacts From Alternative 4
Recreation management would affect riparian areas the same as under Alternative 2. The Arizona Trail would cross the riparian area through the Narrows and degrade fragile floodplain soils and damage riparian vegetation. Livestock grazing management would have similar direct impacts to riparian areas as under Alternatives 1 and 2 because cattle would continue to be excluded. During drought, fixed stocking rats might degrade watershed condition, increasing runoff, flood peaks, and sedimentation and decreasing aquifer recharge and base flows. 90% less acreage would be designated as ACECs, but most riparian areas would be included and protected by special management.	Impacts recreation management and the Arizona Trail would be the same as described for Alternative 2. Eliminating livestock grazing on public land under Alternative 4 would affect riparian areas in much the same way as under the other alternatives. Livestock management under the other alternatives would virtually eliminate direct cattle impacts to riparian areas through exclosure. Alternative 4 would further eliminate impacts from crossing lanes and watering areas and from trampling around livestock developments. Possible improvements in watershed health could slightly lower peak flows and sedimentation and increase infiltration, aquifer recharge, and duration and length of perennial flow. ACEC designation would affect riparian areas the same as under Alternative 2.
Impacts from watershed, upland, riparian, fish and wildlife, cultural and visual resources management would be the same as described for Alternative 2. Mineral development would have greater potential to disturb fish and aquatic wildlife and plants than under the other alternatives because more area would be open to mineral development. Utility rights-of-way and land use authorizations would affect fish and aquatic wildlife and plants the same as under Alternative 2. Management of off-highway vehicles would affect fish and aquatic wildlife and plants as described for Alternative 1. Road closures and restrictions would affect fish and aquatic wildlife and plants as described for Alternative 2, but a smaller acreage of roads would be closed and rehabilitated.	Impacts from watershed, upland, riparian, fish and wildlife, cultural, and visual resource management would be the same as described for Alternative 2. Impacts from mineral development, utility rights of ways, and road designations would be the same as described for Alternative 2.

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
BIOLOGICAL RESOURCES		
Fish and Aquatic Wildlife, continued (includes aquatic threatened and endangered species) ***Scope of Analysis: Changes in habitat features and populations of fish and aquatic wildlife.***	The aquatic habitat portion of the riparian objective might not be met if a large-scale mineral development occurs. Extraction of water for large-scale mining would reduce aquatic habitat for native fishes and aquatic wildlife and plants, including Gila topminnow, Gila chub, longfin dace, leopard frogs, Mexican garter snake, and Huachuca water umbel through sedimentation, excessive water use, and contamination. Construction for utilities might slightly to moderately disturb habitats of federally listed and other fish and aquatic wildlife and plants as mentioned above for mineral development. OHV designation should allow the aquatic habitat objective to be met and protect habitats of federally listed and other aquatic wildlife and plants mentioned above. But vehicles using 11 stream crossings could crush and therefore kill or injure animals, disturb habitats by sedimentation, lower water quality by leaking oil or other fluids, provide access for introduction of exotic species, destroy vegetation cover, and reduce bank stability. Current recreation management might disturb aquatic habitats and animals and plants. Increasing recreation use could reduce bank stability and vegetation cover along streams, promoting erosion and filling pool habitats. Extensive bank damage could adjust stream channels. Equestrian or hiking use could kill topminnows. Lack of an Arizona Trail designation would not affect fish and aquatic wildlife.	Fish and wildlife management proposals would place added emphasis on protecting and restoring aquatic fish and wildlife habitats and populations. Aquatic wildlife, including the desert pupfish, Gila topminnow, Gila chub, lowland leopard frog, and Chiricahua leopard frog, would be conserved by reintroductions and other management. Securing an instream flow right would help assure the sustainability of perennial water in Cienega Creek needed by aquatic species over the long term. Added restrictions on livestock and recreation use of riparian areas would protect aquatic species, including the special status species mentioned above. Reintroducing beaver would expand marsh habitats and increase aquatic habitat diversity. Cultural or visual resource management would not affect fish and aquatic wildlife. Eliminating the potential for mining on public land would greatly reduce the risk of harm to aquatic habitats described for Alternative 1. Utility corridor designation would eliminate most of the risk of direct impacts on fish and aquatic wildlife and plants from new utilities described for Alternative 1. Impacts of OHV designation would be the same as under Alternative 1, but eliminating all but one road stream crossing would alleviate the impacts on aquatic species described for Alternative 1. Recreation use in riparian areas including horseback riding and hiking, could increase injury or mortality to Gila topminnow, and harass or injure leopard frogs and garter snakes. Impacts to water quality, stream banks, and vegetation cover from recreational use could also disturb aquatic species. The Arizona Trail could contribute to these impacts by attracting more visitors. A recreation permit system would help ensure that use levels are compatible with maintaining aquatic habitats and populations of aquatic species.

Impacts From Alternative 3	Impacts From Alternative 4
Recreation management would affect fish and aquatic wildlife and plants much as under Alternative 2. But the Arizona Trail would cross the riparian area through the Narrows and allow direct impacts to fish and aquatic wildlife, including injury or death to Gila topminnow, harassment of leopard frogs, Gila chub, and Mexican garter snake, damage to vegetation cover, and trampling of stream banks.	Impacts from recreation management and the Arizona Trail would be the same as described for Alternative 2.

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
BIOLOGICAL RESOURCES		
Fish and Aquatic Wildlife, continued (includes aquatic threatened and endangered species) ***Scope of Analysis: Changes in habitat features and populations of fish and aquatic wildlife.***	Aquatic habitat components, including woody cover, undercut banks, average pool depth, and overhanging cover, are increasing under current livestock management with limited access to streams. Localized areas might experience trampling of vegetation and banks, lowering of water quality from fecal material, and for Gila topminnow the risk of ingestion by watering cattle. Lack of ACEC designation could deny important protective management to fish and aquatic wildlife.	Livestock grazing management would have impacts similar to those under Alternative 1. The expanded biological planning process should further help protect aquatic fish and wildlife through increased monitoring and improved watershed condition. ACEC designation would provide for important protective management to fish and aquatic wildlife and enhance resources for management and protection. ACEC Designation would provide protective management on a watershed scale which would benefit habitats for fish and aquatic wildlife.
Terrestrial Wildlife **(Includes terrestrial threatened and endangered species)** ***Scope of Analysis: Changes in habitat features and populations of terrestrial wildlife.***	Lack of integrated vegetation treatment over the long term would increase shrub-invaded grasslands and decrease open grassland habitats. Terrestrial wildlife preferring shrub grasslands, such as white-tail deer, would benefit. Habitat for species preferring open grassland, like pronghorn, Baird's and grasshopper sparrows, would decline. Current wildlife management, including threatened and endangered species consultations, studies, habitat improvement projects, and reestablishing species on a case-by-case basis, benefits terrestrial wildlife. Implementing conditions of biological opinions benefits jaguar, willow flycatcher, and lesser long-nosed bat. Cultural resource data recovery might disturb a small amount of terrestrial habitat. Management for VRM Class III might require stipulations that slightly increase wildlife project costs.	Vegetation treatments would tend to favor species that prefer open habitats and result in reduced occupation by species that favor dense cover usually found in mesquite or desert shrub habitat. Prescribed fires might destroy habitat in the short term and kill slow-moving species. Pronghorn would benefit from new growth after fires. Fires would also destroy some agaves, which are forage for endangered lesser long-nosed bats. Species such as Baird's sparrow and grasshopper sparrow would benefit unless nonnative species (such as Lehmann's lovegrass) increase. Actions to protect riparian areas would benefit riparian-dependent wildlife, including the endangered southwestern willow flycatcher and many sensitive species such as the yellow- billed cuckoo. Proposals for reestablishing or supplementing wildlife populations would benefit extirpated wildlife species such as the endangered aplomado falcon if actions are found feasible and are successful. Other wildlife management proposals would create a mosaic of habitats, protect sensitive areas, and facilitate wildlife movement. Cultural resource management would attract a higher level of human use to Empire Ranch

Impacts From Alternative 3	Impacts From Alternative 4
Livestock grazing management would have similar direct impacts on fish and aquatic wildlife and plants as described for Alternatives 1 and 2. Cattle would continue to be excluded from streams, but would cause damage at crossing lanes and watering areas. Fixed stocking rates might degrade watershed condition during drought; increase runoff, flood peaks, and sedimentation; and decrease aquifer recharge and base flows affecting habitats of fish and aquatic wildlife and plants.	Eliminating livestock grazing on public land would affect fish and aquatic wildlife and plants in much the same way as the other alternatives. Livestock management under the other alternatives would virtually eliminate direct cattle impacts through riparian area exclosure of most areas. Alternative 4 would further eliminate impacts from crossing lanes and watering areas. Added improvements in watershed health might benefit aquatic habitats by slightly decreasing peak flows and sedimentation and increasing infiltration, aquifer recharge, and duration and length of perennial flow.
Although Alternative 3 would designate 90% less acreage in ACECs, most riparian areas that provide aquatic habitats would be included and protected by special management.	ACEC designation would affect fish and aquatic wildlife and plants the same as under Alternative 2.
Watershed, upland, riparian, wildlife, and cultural resource management would affect terrestrial wildlife the same as under Alternative 2.	Impacts of watershed, upland, riparian, wildlife, and cultural resource management, and mineral development would be as described for Alternative 2. Impacts on terrestrial species would be similar to those described for Alternative 2 except the potential to maintain habitat quality, reduce habitat loss, and maintain viable wildlife populations on public land in the planning area would be enhanced by removing livestock, designating only one utility corridor, and closing or restricting a larger proportion of roads (20%).

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
BIOLOGICAL RESOURCES		
Terrestrial Wildlife, continued **(Includes terrestrial threatened and endangered species)** ***Scope of Analysis: Changes in habitat features and populations of terrestrial wildlife.***	Potential mineral development on ~~6,373~~ 7,265 acres would destroy or degrade oak woodland habitat, harming species such as Mearn's quail, white-tailed deer, and lesser long-nosed bat. Associated vehicles and human presence might disrupt or kill terrestrial wildlife In the long term proliferating rights-of-way might significantly disturb wildlife. Utility lines and access roads could block wildlife movement. Increased human use could result in mortality from vehicles, poaching, and habitat destruction. Off-highway vehicle use would disturb or destroy habitat, kill animals, promote poaching, and disturb wildlife use patterns. ORV might destroy some agaves essential to lesser long-nosed bats. Vehicles at the 11 stream crossings would destroy or disturb vegetation cover in riparian areas for about 1/4 mile up and down stream, harming willow flycatchers. Livestock would forage on 41,855 acres of oak woodland and grassland habitat, reducing cover and forage for grassland species. Trampling would further reduce cover, particularly around livestock developments. Habitat conditions would improve for species that benefit from increased bare ground. Livestock would consume some growing agave stalks, disturbing lesser long-nosed bat foraging habitat. Grazing of small areas of riparian habitat in crossing lanes and watering areas would harm willow flycatchers, as would livestock developments that attract cowbirds.	Continued closure of acquired lands to mining and proposed withdrawal of open areas would virtually eliminate the harm of mineral development to wildlife as described for Alternative 1. Designating two utility corridors would limit impacts described for Alternative 1 to a potentially much smaller area. Road designations and closing ~~14~~ 12% of the road network would reduce motorized recreation impacts described for Alternative 1. Seasonal road closures would benefit pronghorn. Designating recreation zones would increase levels of human disturbance at designated sites in Zones 1 and 2. Camping-related disturbance would end in Zone 1. Dispersed recreation impacts would decline but would still occur on 90% of public land. A permit system would help ensure that recreation use is compatible with sustaining wildlife habitats and populations. Livestock would forage on 42,155 acres of oak woodland and grassland habitats and would affect wildlife as under Alternative 1. But flexible stocking rates and a more structured biological planning process should enhance wildlife management and better protect habitats. Grazing would still disturb the endangered southwestern willow flycatcher and lesser long-nosed bat as described for Alternative 1.

Impacts From Alternative 3	Impacts From Alternative 4
Mineral development would affect wildlife as under Alternative 1, but harm could occur over a much larger area since 74% more acres would be open to mining for locatable minerals and 84% more acres would be open to mineral leasing. Designating utility corridors would have similar impacts as under Alternative 2, but impacts would occur in one added corridor. Designating and closing roads would have impacts similar to those described for Alternative 2 , but 8.6% instead of ~~14~~ 12% of the road network would be closed. Added group sites and camp areas would increase impacts of human disturbance at these designated sites. But less acreage would be designated for dispersed use, so those impacts would occur on 63% of public land. Livestock would forage on ~~43,895~~ 45,375 acres of oak woodland and grassland habitat and have similar impacts as described for Alternative 1. But in favorable or normal rainfall years, the impacts of reduced cover should be less due to conservative fixed stocking rates. In unfavorable drought years, loss of cover for wildlife and decline in vegetation condition could be greater than under Alternatives 1 and 2, where livestock numbers would be adjusted. Livestock grazing would still harm the endangered southwestern willow flycatcher and the lesser long-nosed bat as described for Alternative 1.	Dispersed recreation impacts would be most similar to Alternative 1 because Alternative 4 would include the most area in Zone 3. The endangered southwestern willow flycatcher and lesser long-nosed bat would still be affected, mainly by the impacts of recreation use.

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
BIOLOGICAL RESOURCES		
Noxious Weeds and Invasive Plants ***Scope of Analysis: Risk of invasion or spread of noxious weeds or invasive species.***	Noxious weeds could be introduced **and invasive species could be introduced or spread** from both concentrated and dispersed recreation and from livestock operations. Motor vehicles on roads could spread some noxious weeds **or promote spread of invasive species such as Lehmann's lovegrass**.	Noxious weeds could be introduced **and invasive species could be introduced or spread** from both concentrated and dispersed recreation and from livestock operations. Establishing a noxious weed **and invasive species** control area would increase opportunities to acquire funding for control or eradication. Reduced miles of road for motor vehicle use would slightly reduce the risk of introducing **or spreading** certain noxious weeds **and invasive species**. Integrated vegetation treatment, including prescribed fire, could help control some noxious weeds but spread others **and could promote certain invasive species such as Lehmann's lovegrass**.. BLM would consider these factors in project design and mitigation.
VISUAL RESOURCES		
Visual Resources ***Scope of Analysis: Changes in the quality of visual resource conditions in the viewshed.***	Future mineral or right-of-way development could degrade the planning area's current high scenic quality. Unauthorized off-road vehicle travel (wildcat roads), spread of concentrated and dispersed recreation impacts (bare ground, hardened areas) and some livestock developments could also lower scenic quality. Current watershed restoration projects could lower scenic quality in the short term but would improve scenic quality over the long term. Applying VRM Class III standards to all developments and projects would help protect scenic quality.	Current high scenic quality would be retained by closure to mineral development, designating corridors along existing utility lines, implementing a designated road system, and restricting camping in Zones 1 and 2. Proposed watershed restoration projects, including vegetation treatments, could lower scenic quality in the short term but improve scenic quality over the long term. Applying VRM Class II standards to all developments and projects would increase protection of scenic quality from that under Alternative 1.

Impacts From Alternative 3	Impacts From Alternative 4
Impacts would be the same as under Alternative 2.	Impacts would be the same as under Alternative 2, but the removal of livestock would reduce one risk factor in introducing or spreading noxious weeds **and invasive species**. Further reduction in miles of roads for motor vehicle use would slightly reduce the risk of spreading certain noxious weeds compared to Alternative 2.
Current high scenic quality could be lowered by mineral development outside ACECs. Current high scenic quality would be retained by designating corridors along existing utility lines and implementing a designated road system and restrictions on camping in Zones 1 and 2. Applying VRM Class II standards to all developments and projects would increase protection of scenic quality from that under Alternative 1.	Current high scenic quality would be retained by closures to mineral development, designating corridors along existing utility lines, removing livestock grazing and developments from public land, and restricting camping in Zones 1 and 2. Increased fencing would slightly degrade visual resources. Applying VRM Class II standards to all developments and projects would increase protection of scenic quality from that under Alternative 1.

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
CULTURAL AND PALEONTOLOGICAL RESOURCES		
Cultural and Paleontological Resources ***Scope of Analysis: Potential for disturbance to or for increased protection of cultural and paleontological resources resulting from proposed actions.***	Current watershed, vegetation, and wildlife management provides limited and localized benefits to cultural resources from restoration and/or management activities. Current management of visual resources (VRM Class III) allows some undesirable visual intrusions at historic ranch headquarters. Current cultural resource management provides basic stabilization and limited protection of cultural resources. Class III surveys and ethnoecology study would enhance knowledge base. Providing Native American plant collecting sites meets a need. Continued closure of most public land to mining would protect cultural resources. Mining impacts from small acreages open to mining could be mitigated. Lack of designated utility corridors could disturb cultural resources over a wide area, but data recovery could mitigate impacts. Unauthorized off-road travel by vehicles seriously threatens cultural resource sites. The threat of illegal collecting of cultural and paleontological resources is enhanced by the existing road network, which provides access to sites. Class III surveys along roads would help assess threats. Lack of recreation zones would disturb cultural resources through unregulated, dispersed recreation.	Proposed watershed, vegetation, and wildlife management would improve plant cover, better protecting cultural sites. Restrictions on uses in riparian areas would benefit cultural resources, which are concentrated in these areas. Management of visual resources under Class II would protect and enhance scenic quality of historic ranch headquarters. Cultural resource management that provides basic stabilization and adaptive reuse would give the public and scientific community a wide array of educational, interpretive, and research opportunities at the Empire Ranch Headquarters and sites outside the headquarters area. Class III surveys and ethnoecology studies would enhance the knowledge base. Providing Native American plant collecting sites meets a need. Designated utility corridors would restrict cultural resource impacts from ground disturbance to limited areas. Disturbance could be mitigated by data recovery. Unauthorized off-road travel by vehicles could be better enforced by fully implementing a designated road system. Proposed road restrictions and closures would protect some cultural sites and slightly reduce the threat of illegal collecting of cultural and paleontological resources The Arizona Trail designation could disturb cultural resources by providing non-motorized access into new areas. Data recovery could mitigate Impacts. Designating recreation zones would protect cultural resources in Zones 1 and 2 from most concentrated use because activities would be restricted to designated sites where impacts could be mitigated.

Impacts From Alternative 3	Impacts From Alternative 4
Impacts would be the same as under Alternative 2 with the following exceptions: Opening the planning area to mining outside ACECs could inflict major harm to cultural resources. These impacts would have to be mitigated through mining plans of operations. Smaller ACECs would still protect cultural resources, which are concentrated along riparian areas within the ACECs.	Impacts would be the same as under Alternative 2 with the following exceptions: The impacts from livestock grazing and developing range projects would be eliminated. Additional roads would be closed and restricted, further reducing the impacts of motorized recreation.

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
CULTURAL AND PALEONTOLOGICAL RESOURCES		
Cultural and Paleontological Resources continued ***Scope of Analysis: Potential for disturbance to or for increased protection of cultural and paleontological resources resulting from proposed actions.***	Livestock grazing would inflict only limited damage to cultural resources because livestock would be fenced from riparian areas where cultural resources are concentrated. Lack of ACEC designations would preclude management prescriptions that might benefit cultural and paleontological resources.	Livestock grazing impacts would be same as under Alternative 1. ACEC designation would protect cultural resources through associated actions to protect vegetation and wildlife.
LAND USES		
Lands and Realty ***Scope of Analysis: Impacts on the ability to permit land use authorizations and provide services.***	No utility corridors would be designated for new applications. BLM would consider locations and applications on case-by-case basis. Protecting sensitive resources, including threatened and endangered species and cultural sites, might preclude project approvals or locations or require stipulations that increase project costs.	Two designated utility corridors could be used for new applications. Such use might reduce some of the conflicts relating to cultural properties and sensitive or listed plants or animals. Protecting sensitive resources, including threatened and endangered species and cultural sites, might preclude project approvals or locations or require stipulations that increase project costs. Reintroducing species could require more stipulations. Vegetation treatments, including prescribed fire, could harm right-of-way facilities and preclude land use authorizations. Protective measures would need to be applied. Motorized recreation use along utility easements could result in conflicts with permit holders. The construction and use of the Arizona Trail and use of other non-motorized routes could result in conflicts where the trail crosses existing access routes for utilities and other land use permit sites.

Impacts From Alternative 3	Impacts From Alternative 4
see page 2-157	see page 2-157
Impacts would be the same as under Alternative 2 except three designated utility corridors could be used for new applications.	Impacts would be the same as under Alternative 2 except only one designated utility corridor could be used for new applications.

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
LAND USES		
Mineral Development ***Scope of Analysis: Acreage open to potential mineral exploration and development.***	48,542 acres of public land would remain closed to mineral location and mineral leasing. 458 acres of public land and ~~5,914.6~~ 7,167 acres of split-estate lands would remain open to mineral location and mineral leasing. 49,000 acres of public land and ~~5,914.6~~ 7,167 acres of split-estate lands would be closed to mineral material sales. About 88% of the federal mineral estate in the planning area would be closed to mineral location and leasing. Overall, about 40% of planning area prospectively valuable for oil and gas would be open, and 60% would be closed. Planning area includes about 0.5% of area in southeast Arizona that is prospectively valuable for oil and gas.) Overall, 65% of the planning area would be open to mining either on federal mining claims or state leases, and 35% would be closed.	Same as under Alternative 1 but 458 more public domain acres and ~~5,914.6~~ 7,167 more split-estate acres would be proposed to be withdrawn from mineral location and leasing. A 12% reduction in public land open to mineral leasing and location. Overall, about 30% of planning area (federal and state) prospectively valuable for oil and gas would be open and 70% would be closed. Only State Trust Lands in the planning area would potentially be open to mining of locatable minerals.

Impacts From Alternative 3	Impacts From Alternative 4
41,000 acres of public land and ~~5,914.6~~ 7,167 acres of split-estate lands would be open to mineral location and mineral material sales outside ACECs. 45,859 acres of public land and ~~5,914.6~~ 7,167 acres of split-estate lands would be open to mineral leasing with the stipulation of no surface occupancy within ACECs. An 84% increase in federal lands open to mineral leasing and a 74% increase in federal lands open to mineral location in the planning area. Overall, about 96% of planning area (federal and state) prospectively valuable for oil and gas would be open and 4% would be closed. Overall, about 95% of planning area (federal and state) would be open to mining.	Acreage open to potential mineral exploration and development would be the same as under Alternative 2.

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
LAND USES		
Livestock Grazing ***Scope of Analysis: Acreage open to livestock grazing, allowable use levels, and other constraints.***	BLM would continue to authorize livestock grazing on 41,855 public land acres. Four grazing allotments would continue to operate. The Empire-Cienega allotment would have variable net cash returns, resulting in part from the variable stocking rate and resulting in variable grazing receipts to BLM. Protection of sensitive resources, including riparian areas, special status wildlife and plants, and cultural resources, might constrain grazing management and increase operating costs. Improvements in upland vegetation condition from vegetation treatments would be localized and unlikely to measurably increase forage base. Unmanaged increases in recreation use would threaten viability of livestock operations and require increased labor and capital outlay from ranchers. Direct human-livestock conflicts eventually could end the viability of grazing operations. Over the long term, less grazing land (State Trust and private) might be open to livestock operations due to shifts from a rural agriculture-based economy to residential and service-related ecotourism economy.	BLM would authorize livestock grazing on 41,155 public land acres. Four grazing allotments would continue to operate, and one new allotment would be established in the Empire Mountains. All allotments would have variable net cash returns resulting in part from variable stocking rates and resulting in variable grazing receipts to BLM. A new grazing allotment in the Empire Mountains could generate personal income of more than $1,700 and $300 in grazing receipts to BLM. Protection of sensitive resources, including riparian areas, special status wildlife and plants, and cultural resources, might constrain grazing management and increase operating costs. Reintroduced species might additionally constrain grazing management. Improvements in upland vegetation condition from integrated vegetation treatments are likely to increase the forage base over the long term. Increased recreation use would threaten the viability of livestock operations, and livestock and visitors would directly conflict. But proposed recreation management and use of the biological planning process should reduce and resolve these conflicts and improve prospects for maintaining viable grazing operations. Some road closures or restrictions might slightly lower the efficiency of grazing operations. Conflicts might temporarily increase in areas of designated recreation sites or the Arizona Trail. Acquisitions of more public land or conservation easements might help ensure that more grazing land is open to grazing operations for a longer period

Impacts From Alternative 3	Impacts From Alternative 4
Same as Alternative 2 except for the following: BLM would authorize Livestock grazing on ~~45,095~~ 45,375 public land acres. Allotments would have lower but set stocking rates. Therefore net cash returns would be more stable. Over the long term, income from operations might be lower on average. A new grazing allotment in the Empire Mountains could generate $300 in grazing receipts to BLM and personal income exceeding $1,700. To resolve conflicts between users BLM would apply more traditional methods instead of the biological planning process.	BLM would not allocate public land for livestock grazing. Four federal grazing leases would be cancelled, affecting operations on four ranches. More than $129,000 in personal income could be lost. No federal grazing receipts would be received on the four allotments. BLM might have to compensate ranchers for the value of improvements that they would no longer use. Increasing recreational use would continue, but livestock operations would no longer conflict with visitors on public land. Over long term, less grazing land (State Trust and private) might be open to other livestock operations surrounding these public lands because of shifts from a rural agriculture-based economy to a residential and service-related ecotourism economy.

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
LAND USES		
Recreation ***Scope of Analysis: Changes in recreation opportunity settings ; corresponding changes in recreation experiences and changes in access.***	Existing recreation settings would be adversely affected by the following: • Lack of planned and integrated vegetation management. • Management as VRM Class II, which allows some changes to existing landscape character. • Deterioration of historic buildings, which leads to loss of site character. • Lack of a comprehensive cultural resource interpretation program. Current wildlife management enhances recreation opportunities and settings. Mineral development on public land now open to mining could result in loss of more primitive recreation experiences and scenic qualities and changes in visitor access. Utility rights-of-way and land use authorizations on public land could change current recreation opportunities and visitor access. Both uses could result in subsequent increases in motorized traffic, increases in the use of unauthorized public land access points, changes in some road conditions, and increases in road maintenance requirements. Current off-highway vehicle management has disturbed the natural and more primitive recreation settings and opportunities because of the harm of unauthorized off-road travel. Lack of designated recreation zones and associated management allows for continual random campsite creation and dispersed recreational use on the entire planning area, harming both recreation settings and opportunities for some users in some areas. Management is complicated by lack of established desired recreation settings and opportunities. Over the long term, all visitor opportunities and experiences might change with increased, relatively unplanned recreation use.	Proposed actions for watershed, upland, riparian, fish and wildlife, and cultural resource management would enhance overall recreation settings and opportunities. Specific proposals would both harm and benefit recreation opportunities and settings. Designation as VRM Class II would help maintain the desired recreation opportunities and settings, including a more natural appearing and primitive recreation setting. Complying with VRM Class II prescriptions would restrict or modify some recreation developments. Potential impacts from mineral development would be eliminated and impacts from utility rights-of-way would be confined to two corridors. Implementing OHV designation and transportation system would create a wider variety of both motorized and no-nmotorized recreation opportunities and reduce user conflicts. Establishing an individual recreation permit system would help preserve existing recreation settings and opportunities by addressing the area's recreation capacities. The proposed recreation zone prescriptions would help maintain recreation settings and enhance recreation opportunities.

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Impacts From Alternative 3	Impacts From Alternative 4
Same impacts as Alternative 2 from watershed, riparian and upland vegetation, fish and wildlife, and cultural resource management and from VRM Class II designation. Impacts from mineral development would be the same as described for Alternative 1 but could occur on a much larger scale. Impacts of utility rights-of-way would be similar to those under Alternative 2 but would be expanded into another corridor. Impacts of off-highway vehicle management would be the same as under Alternative 2. Recreation impacts would be similar to those described for Alternative 2 except that the Zone 2 and 3 configuration would maintain a more natural or primitive corridor on the main touring road heading northeast through the planning area. Since camping along the road corridors in an expanded Zone 2 would not be allowed unless at a designated spot, negative impacts along the roadside would decline. An overall high visual quality and sense of being in a more primitive area would be maintained.	Impacts would be the same as under Alternative 2 except for the following: Impacts of utility rights-of-way would be confined to one corridor. No exclusively non-motorized routes would be created. That all routes would be shared motorized and non-motorized use would likely increase user conflicts. Desired recreation settings might be harder to maintain if visitor use increases dramatically because most of the area is prescribed for dispersed recreation use and the least amount of area is in the more restrictive Zones 1 and 2 (designated camp areas, group areas, and pullouts for example).

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
Recreation, continued ***Scope of Analysis: Changes in recreation opportunity settings ; corresponding changes in recreation experiences and changes in access***	Lack of an Arizona Trail designation means that a highly desired non-motorized trail would not be routed on public land in the planning area and another route would have to be found. The trail would also not attract an increasing number of visitors to the planning area. Livestock grazing has relatively little impact on recreation. Safety and health issues could arise when cattle and visitors use the same areas. Depending on visitor perspectives, cattle could either detract from or add to recreational experiences. Visitors often use livestock developments, including cattle trails, water sources, and corrals. Lack of more ACEC designations might slightly lower the quality of the recreation opportunity settings because sensitive resources might be at greater risk of degradation.	Designating a corridor for the Arizona Trail would provide a highly desired non-motorized trail and help reduce user conflicts on shared motorized and non-motorized routes. The trail would attract increasing numbers of visitors to the area. Grazing impacts would be similar to those under Alternative 1 except that users would be brought into the biological planning process, which should help reduce conflicts. ACEC designation would help maintain primitive and semiprimitive recreation opportunities and settings by maintaining and protecting sensitive resources in these areas.
SPECIAL DESIGNATION AREAS		
Wild and Scenic Rivers ***Scope of Analysis: Impacts to the resources and character of the wild and scenic river study area.***	Existing watershed, vegetation, fish and wildlife, and cultural resource management would continue to protect the wild and scenic river study area and values. A Class III VRM designation could allow for some intrusions on the current scenic values of Cienega Creek. Disturbance from any large-scale mining in the Empire Mountains could degrade wild and scenic river values and would be mitigated through the required mining plans of operations. Rights-of-way in the wild and scenic river corridor could degrade outstandingly remarkable values. Continuing use of all existing roads might degrade portions of Cienega Creek where vehicle traffic is now being allowed in the wild and scenic river corridor.	The overall prescriptions for watershed, upland, and riparian areas would help retain Cienega Creek in wild and scenic river suitability status. Overall the cultural resource program would enhance wild and scenic river values. The more stringent VRM Class II designation would better maintain values of the river study area. Proposed mineral withdrawals and continued closure of most of the planning area to mineral development would protect wild and scenic river values. Designating utility corridors away from the wild and scenic river corridor would help maintain wild and scenic river values. But the proposed utility corridor in the northeast corner of the planning area would cross the Cienega Creek wild and scenic river corridor, and other lines within this corridor could degrade the scenic values of the wild and scenic river study area. Implementing the designated road system would reduce the potential for expanding illegally created roads and help maintain wild and scenic river values. Proposed road closures would reduce unneeded roads in the wild and scenic river corridor and eliminate almost all wet stream crossings.

Impacts From Alternative 3	Impacts From Alternative 4
Impacts of the Arizona Trail would be the same as under Alternative 2. Livestock grazing impacts would generally be similar to those described for Alternatives 1 and 2. But negative impacts to recreation settings could increase in drought years if stocking rates are not reduced. Impacts to the recreational settings could include bare soil in camping areas. Designating ACECs would have the same impacts as under Alternative 2.	Because the Arizona Trail would be shared use, motorized and non-motorized user conflicts would increase Removal of livestock grazing might increase recreation use. Although conflicts from cattle grazing would decline, conflicts between equestrians and other users would remain. Corrals, water sources, and trails created by cattle might remain and be used by visitors, but BLM would assume maintenance costs. Equestrian impacts could replace livestock grazing impacts on a smaller scale with higher impacts concentrated in popular areas. Increased opportunities for livestock-related and general special recreation permits would result.
Impacts would be the same as under Alternative 2 with the following exceptions: Mineral development impacts would be of the same type as under Alternative 1 but could occur over a much greater area. Recreation impacts would be similar to those under Alternative 2, but some of the wild and scenic river corridor would fall in recreation Zone 2, which might better protect wild and scenic river values by restricting camping to designated areas. But because Alternatives 2, 3, and 4 would all restrict camping to areas more than 100 feet from the stream, the increased protection would be minor. The Arizona Trail corridor would pass through the wild and scenic river corridor and might conflict with maintaining wild and scenic river values in the segment crossing through the Narrows.	Impacts would be the same as under Alternative 2 except for the following: Eliminating livestock grazing in the river corridor would benefit wild and scenic river values, but recreational livestock use might increase and have impacts similar to livestock grazing.

Table 2-32, continued. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
SPECIAL DESIGNATION AREAS		
Wild and Scenic Rivers, continued ***Scope of Analysis: Impacts to the resources and character of the wild and scenic river study area.***	Lack of recreation management zones would not affect the character of the wild and scenic river corridor or its outstandingly remarkable values. Lack of designation of a route for the Arizona Trail would prevent attracting a cumulatively large number of hikers to the river corridor. Restricting cattle from most of the wild and scenic river corridor would help protect wild and scenic river values. Use of livestock crossing lanes and watering areas would cause some harm to wild and scenic river values. Lack of an ACEC designation should not affect a stream's suitability because wild and scenic river interim management guidelines already protect the study corridor's values and character.	The recreation Zone 3 designation recommended for the wild and scenic river study corridor would allow dispersed camping, but Alternatives 2, 3, and 4 would ban camping within the riparian zone. Despite this restriction, wild and scenic river segments within Zone 3 might be degraded by dispersed recreation use, including human waste accumulation, lowered water quality, and extensive tree damage. The lack of alternate potable water sources could have cumulative impacts to the creek where hikers and horseback riders trample vegetation to retrieve water. Designating the Arizona Trail could increase visitor use and adverse impacts. Livestock Grazing impacts would be the same as under Alternative 1. The ACEC designation would add a layer of importance, perhaps pulling in more management dollars to the area and helping retain wild and scenic river values.
ACECs ***Scope of Analysis: Impacts to the resources of the ACEC s.***	For all alternatives, see the impacts to watershed, upland and riparian vegetation, and fish and wildlife for the impacts to the resources of the Appleton-Whittell ACEC. The resources and research use of Appleton-Whittell ACEC are being protected through implementation of the proposed management for this ACEC prescribed in the Phoenix RMP and through the existing cooperative management agreement.	Changing the name of Appleton-Whittell ACEC to Appleton-Whittell Research Natural Area ACEC would better communicate the main purpose of the ACEC. Restricting all roads on public land in the ACEC to administrative use would ensure that unauthorized motor vehicle use does not interfere with ongoing research.

Impacts From Alternative 3	Impacts From Alternative 4
See page 2-167.	See page 2-167.
Impacts would be the same as under Alternative 2.	Impacts would be the same as under Alternative 2.

Table 2-32, concluded. Comparison of Impacts, Las Cienegas Resource Management Plan

Resource Affected	Impacts From Alternative 1 (Current Management)	Impacts From Alternative 2 (Agency Preferred)
SOCIAL AND ECONOMIC CONCERNS		
Population and Demographics	Population or demographics would not change.	Increased recreation resulting from changes in recreation management would increase the number of visitors to the planning area but not the population and demographics of Pima, Cochise, and Santa Cruz counties.
Local and Regional Economy	The local or regional economy would not change.	Increased recreation resulting from changes in recreation management might benefit the local and regional economy.
Employment	Employment would not change.	Increased recreation might result in more local jobs.

Impacts From Alternative 3	Impacts From Alternative 4
Impacts would be the same as under Alternative 2.	Impacts would be the same as under Alternative 2.
Impacts would be the same as under Alternative 2.	Increased recreation resulting from changes in recreation management might benefit the local and regional economy but would result in a loss of $129,000 in personal income.
Impacts would be the same as under Alternative 1.	Impacts would be the same as under Alternative 1.